

# SUPPLEMENT.

# The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The Mining Journal is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2305.—VOL. XLIX.

LONDON, SATURDAY, OCTOBER 25, 1879.

PRICE (WITH THE JOURNAL) SIXPENCE.  
PER ANNUM, BY POST, £1 4s.

## WEIGHING MACHINERY

for all Commercial purposes and graduated to any NATIONAL STANDARD by Patent Machines

**HODGSON AND STEAD LIMITED** ESTABLISHED 1852.

EGERTON IRON WORKS REGENT ROAD MANCHESTER  
Show Rooms 15 New Bailey St SALFORD  
Bradford Road Uttoxeter New Rd DERBY  
NEWPORT MON. II Queen Victoria St and CARDIFF LONDON EC

### The Barrow Rock Drill COMPANY

SUPPLY their CELEBRATED ROCK DRILLS, AIR COMPRESSORS, &c., and all NECESSARY APPLIANCES for working the said Drills.

TheIR DRILLS have most satisfactorily stood the TEST of LONG and CONTINUOUS WORK in the HARDEST KNOWN ROCK in numerous mines in Great Britain and other countries, clearly proving their DURABILITY and POWER.

The DRILLS are exceedingly STRONG, LIGHT, SIMPLE, and adapted for ends, stopes, quarries, and the sinking of shafts. They can be worked by any miner.

For PRICES, Particulars and Reports of Successful and Economical Working, apply to—

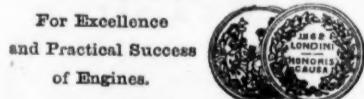
**LOAM AND SON,**  
Liskeard, Cornwall.

### THE PHOSPHOR BRONZE COMPANY (LIMITED).

139, CANNON STREET, E.C.,  
LONDON.

Alloy, No. II., for pinions, ornamental castings, steam fittings, &c. 110s. per cwt.  
No. IV., for pinions, pumps, valves, linings, cylinder, &c. 110s. "  
No. VI. (must be cast in chill), for bolts, &c. This alloy has very great tensile strength. 125s. "  
No. VII., for hydraulic pumps, valves, and plungers, piston rings, bushes and bearings, for steel shafts. 125s. "  
No. XI., special phosphor-bronze bearing metal, wearing five times as long as gun metal. 105s. "  
The prices of castings vary according to the pattern, the quantity required, and the alloy used.

WIRE ROPES, TUBES OF ALL DESCRIPTIONS, &c.



Represented by  
Model exhibited by  
this Firm.

**HARVEY AND CO.,**  
ENGINEERS AND GENERAL MERCHANTS,  
HAYLE, CORNWALL,  
LONDON OFFICE.—186, GRESHAM HOUSE, E.C.

MANUFACTURERS OF  
PUMPING and other LAND ENGINES and MARINE STEAM ENGINES of the largest and most approved kinds in use, SUGAR MACHINERY, MILLWORK, MINING MACHINERY, and MACHINERY IN GENERAL. SHIPBUILDERS IN WOOD AND IRON.

MANUFACTURERS OF  
HUSBAND'S PATENT PNEUMATIC STAMPS.

SECOND-HAND MINING MACHINERY FOR SALE,  
IN GOOD CONDITION, AT MODERATE PRICES—viz.,  
PUMPING ENGINES; WINDING ENGINES; STAMPING ENGINES;  
STEAM CAPSTANS; ORE CRUSHERS; BOILERS and PITWORK of various sizes and descriptions; and all kinds of MATERIALS required for MINING PURPOSES.

**M. R. W. F. STANLEY,** MATHEMATICAL INSTRUMENT MANUFACTURER TO H.M.'S GOVERNMENT, COUNCIL OF INDIA, SCIENCE AND ART DEPARTMENT, ADMIRALTY, &c. MATHEMATICAL, DRAWING, and SURVEYING INSTRUMENTS of every description, of the highest quality and finish, at the most moderate prices. Price List post free.

ENGINE DIVIDER TO THE TRADE.

ADDRESS—GREAT TURNSTILE, HOLBORN, LONDON, W.C.

### PATENT "INGERSOLL ROCK DRILL."

MEDAL  
AND  
HIGHEST  
AWARDS.

—  
1872—American Institute.  
1873—Ditto.  
1874—London International.  
1875—Manchester.  
1875—Leeds.  
1875—Cornwall.  
1875—Rio de Janeiro.  
1876—Australia.  
1876—Philadelphia.  
1877—Cornwall.  
1877—Mining Institute.  
1878—Paris.



We claim 40 per cent. greater effective drilling power.

LE GROS, MAYNE, LEAVER, & CO.,  
60, Queen Victoria Street, London, E.C.,  
SOLE AGENTS FOR THE

### DUSSELDORF

### WROUGHT IRON STEAM TUBE WORKS.

TUBES FOR BOILERS, PERKINS', and other HOT-WATER SYSTEMS

For Catalogues of Rock Drills, Air Compressors, Steel or Iron Steam Tubing, Boiler Tubes, Perkins' Tubes, Pneumatic Tubes, and all kinds of Machinery and MINING PLANT, apply to—

60, QUEEN VICTORIA STREET, E.C.

**SMITH & FORREST,**  
O I L R E F I N E R S ,  
ROSIN OIL DISTILLERS,  
GREASE AND VARNISH MANUFACTURERS,  
HOLT TOWN,  
MANCHESTER.  
ESTABLISHED TEN YEARS.]

AWARDED HONOURABLE MENTION AT THE PARIS EXHIBITION.

**MINERS' LAMP**  
AND  
GAUZE MANUFACTORY,  
Established 1794.

**JOSH. COOKE AND CO.**   
SAFETY LAMPS

Medal for Improved Invention, London, Kensington, 1874.

Ditto Excellence of Workmanship, Wrexham, 1876.

Illustrated Price Lists free, by post or otherwise.

**MIDLAND DAVY LAMP WORKS,**  
BELMONT PASSAGE, LAWLEY STREET,  
B I R M I N G H A M .  
MANUFACTURERS OF WILLIAMSON'S PATENT DOUBLE  
SAFETY LAMP.

### "Kainotomon" Rock Drill SELECTED BY THE BRITISH, PRUSSIAN, & SAXON GOVERNMENTS.

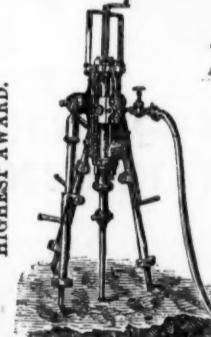


### SUPERIOR AIR COMPRESSORS.

**T. A. WARRINGTON,**  
30, King-street, Cheapside, London.

### THE PATENT "ECLIPSE" ROCK-DRILL AND "RELIANCE" AIR-COMPRESSOR

SILVER MEDAL—PARIS, 1878—  
HIGHEST AWARD.



Are NOW SUPPLIED to the  
ENGLISH, FOREIGN, and  
COLONIAL GOVERNMENTS  
and are also IN USE in a  
number of the largest MINES,  
RAILWAYS, QUARRIES, and  
HARBOUR WORKS in GREAT  
BRITAIN and ABROAD.

FOR ILLUSTRATED CATALOGUE AND PRICES, apply to—

HATHORN & CO., 22, Charing Cross, London, S.W.

**HEPBURN'S.**  
\* PUMP LEATHER \*  
WATERPROOF

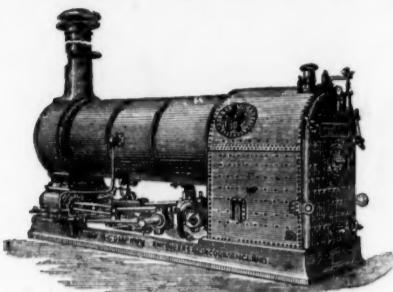
By a special method of preparation this leather is made solid, perfectly close in texture and impermeable to water; it has, therefore, all the qualifications essential for pump buckets, and is the most durable material of which they can be made. It may be had of all dealers in leather, and of—

**HEPBURN AND GALE,**  
TANNERS AND CURRIERS,  
LEATHER MILL BAND AND HOSE PIPE MANUFACTURERS,  
LONG LANE, SOUTHWARK, LONDON.  
Prize Medals, 1851, 1855, 1862, for  
MILL BANDS, HOSE, and LEATHER FOR MACHINERY PURPOSES.

# ROBEY & CO., ENGINEERS, LINCOLN.

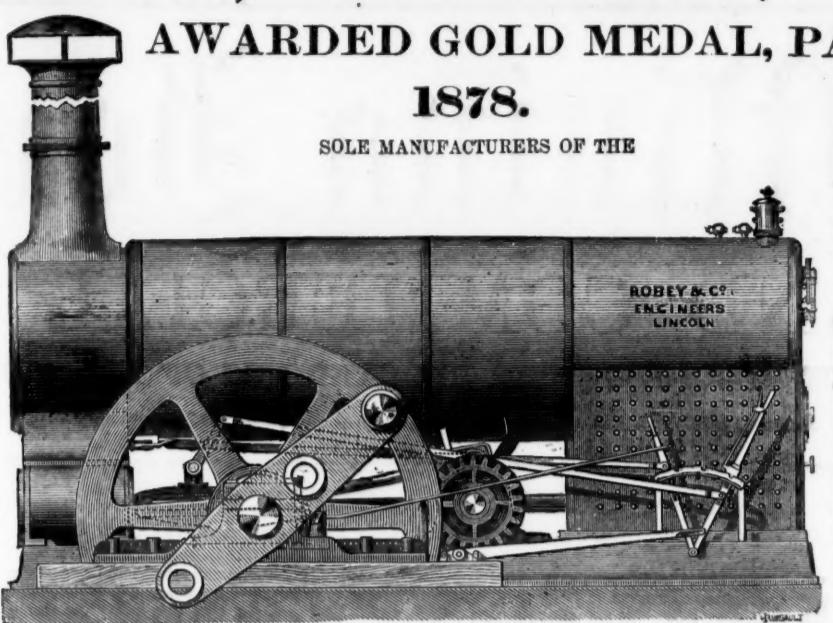
AWARDED GOLD MEDAL, PARIS EXHIBITION,  
1878.

SOLE MANUFACTURERS OF THE

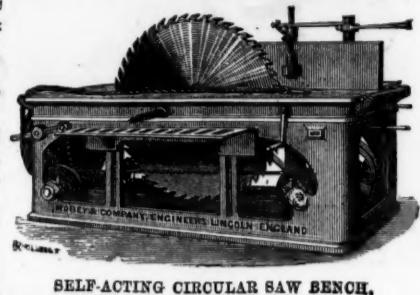


THE PATENT ROBEY FIXED ENGINE AND LOCOMOTIVE BOILER COMBINED  
4 to 50-horse power.

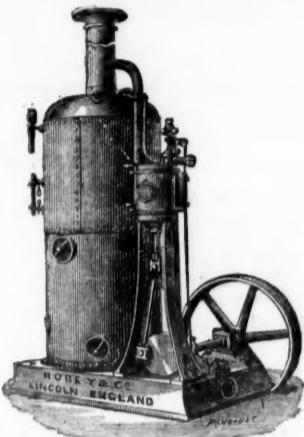
No Expensive Brick Buildings or High Chimney required.



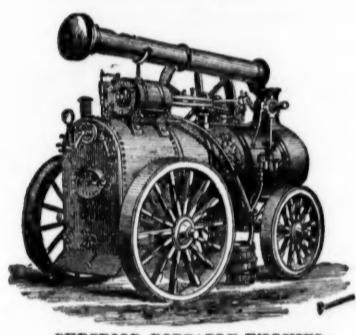
Boiler can be supplied with special Fire-box for Burning Wood,  
Sawdust, Turf, and every description of inferior Fuel.



SELF-ACTING CIRCULAR SAW BENCH.



VERTICAL STATIONARY STEAM ENGINE  
AND PATENT BOILER COMBINED,  
1½ to 16 horse power.



SUPERIOR PORTABLE ENGINES,  
4 to 50-horse power.

## PATENT IMPROVED ROBEY MINING ENGINE

OF ALL SIZES, FROM 4 TO 50-HORSE POWER.

Some of the advantages of this New Engine are as follows:—  
SMALL FIRST COST. SAVING OF TIME AND EXPENSE IN ERECTING. EASE, SAFETY,  
AND ECONOMY IN WORKING. GREAT SAVING IN FUEL.

This New Engine is free from all the objections that can be urged against using the Semi-Portable  
Engine for permanent work, because it possesses the rigidity and durability of the Horizontal Engine,  
and at the same time retains the advantages of the Semi-Portable in saving time and expense in fixing.

## THE PATENT ROBEY FIXED ENGINE

(Also above illustrated) is admirably adapted for driving Rolling Mills, Saw Mills, Brick Machinery,  
Pumping Machinery, and all descriptions of Fixed Machinery.

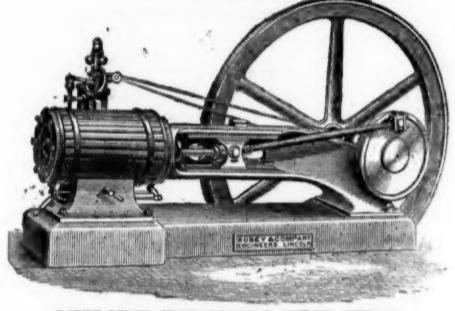
## ENGINES UP TO 200 EFFECTIVE HORSE-POWER ALWAYS IN PROGRESS.

Prices and full particulars of all the Machinery here illustrated on application to the Sole Manufacturers,

**ROBEY & CO.,  
ENGINEERS, LINCOLN, ENGLAND.  
London Office: 117, Cannon Street, London, E.C.**



PATENT VERTICAL ENGINES,  
1½ to 16 horse power.



IMPROVED HORIZONTAL FIXED STEAM  
ENGINE.  
4 to 60-horse power.

References can be given to upwards of 5600 ENGINES of all sizes, from 2 to 50-horse power.

GOLD MEDAL,



PARIS, 1878.

## THE COMPOUND DIFFERENTIAL PUMPING ENGINE

Is largely adopted for Mining and all Pumping purposes. It secures  
great economy in fuel and maintenance. H., D., and Co. have  
patterns for all sizes, from 5 to 500-horse power, and can supply  
very powerful Engines and Pumps at a short notice.

HYDRAULIC PUMPING ENGINES for all purposes where water  
pressure is available.

AIR-COMPRESSING MACHINERY for Rock Drilling and Under-  
ground Haulage, &c.

MINING MACHINERY OF ALL KINDS.

WINDING ENGINES, BLOWING ENGINES, CORNISH PUMPING  
ENGINES, PUMPS, ETC.

**HATHORN, DAVEY, AND CO.,  
ENGINEERS, LEEDS.  
CATALOGUES ON APPLICATION.**

PIERCE S. HAMILTON, PRACTICAL GEOLOGIST,  
SURVEYOR, AND MINING ENGINEER AND AGENT, OFFERS HIS  
SERVICES in either of these capacities to those interested or desirous of investing  
in MINING PROPERTY in the PROVINCE OF NOVA SCOTIA or elsewhere in  
the DOMINION OF CANADA.

Having for years filled the administrative position of Chief Commissioner of  
Mines for Nova Scotia, and having both before and afterwards been himself largely  
engaged in Mining operations, Mr. HAMILTON has had exceptionally good opportunities of informing himself as to the variety, extent, and character of the mineral deposits of that Province, and as to the most economical and effective methods  
of working them.

ADDRESS—PIERCE S. HAMILTON, HALIFAX, NOVA SCOTIA,  
DOMINION OF CANADA.

MONEY LENT, at EIGHT, NINE, and TEN PER CENT., on  
FIRST MORTGAGE of FREEHOLDS for IMPROVEMENTS and  
STOCKING, said freeholds in the Province of MANITOBA.  
Address, HERBERT C. JONES, Solicitor, 20, Masonic Hall, TORONTO.

**JOHN WILLIAMS AND CO.,  
WISHLAW, SCOTLAND,**  
MANUFACTURERS OF ALL KINDS OF

Cut and Lath Nails; Joiners', Moulders', and Flooring Brads; Copper  
and Zinc Cut Nails; Colliery Plate Nails; Washers, Boiler Plates,  
Tube Strips, Sheet Iron for Galvanising and other purposes.

PRICE LIST ON APPLICATION.

## Original Correspondence.

## SAFETY-LAMPS.

SIR.—In the Journal of Sept. 27 you were good enough to insert a few remarks respecting the Mueseler type of lamp. Since then I have again perused carefully the report of the Belgian Commission, and as their experience so fully bears out my views, I venture to send you an extract from this report, which I have no doubt will instruct many and interest others of your numerous readers. After describing the mode adopted for testing the lamps, the composition of the gas, &c., they state—"The whole of the experiments have proved that no means of lighting can be absolutely safe. As far as the Davy and Porion lamps are concerned, it has been shown from the beginning that they give no kind of security in an explosive mixture of 1:70 m. per second. The Mueseler lamp, type or not type, has generally behaved well; nevertheless, it has in many cases produced explosions of which the decided causes have not been known; the special manoeuvre of the hydraulic valve, the greasing of the horizontal gauze, swinging, and the whirling ascending currents have also produced explosions. It has been recognised that the safety of the lamp rests above all in the narrowness of the upper part of the chimney.

"It has also been admitted that the existence or non-existence of a pavilion at the base of the chimney, as well as a difference of some millimetres in the height at which the chimney is placed above the wick holder, does not essentially modify the safety of the lamp; there is, nevertheless, a shadow of evidence in favour of the chimney type. The Commission has also made some tests to determine the influence which the nature of the metallic gauze has upon the rapidity of the transmission of flame. The experiments made by means of the Porion lamp have not always given precise results, the explosion taking place in all cases in a very short time; nevertheless, the duration during which a gauze resists explosive influences increases in proportion to the largeness of the thread and of the smallness of the mesh.

"The crystal glass has not better resisted the heating than the ordinary glass; the fractures in the crystal glass are more irregular and more dangerous than the ordinary glass. But it has been noted that whatever was the material employed in the manufacture of these lamp glasses, the Commission in the course of its numerous experiments has not had to state positively any one case of explosion to be due to their rupture, the fragments having remained resting in the socket of the armature.

"**GENERAL OBSERVATIONS.**—The Mueseler lamps brought before the Commission have been submitted to 294 experiments, made under varying conditions. Out of this number there have been 27 cases of explosion and 6 or 7 cases of simple passage of the flame into the cylinder. If the following deductions are made—(1) Of 12 experiments relative to the Duballe lamp, of which the dimensions are much larger than those adopted by the inventor; (2) of 44 experiments not classified; (3) of 12 trials concerning the influence of the Arnold shield—we arrive at the following results:—226 experiments have given rise to 22 cases of explosion and 5 cases of simple passage of the flame into the cylinder.

"An examination of the table shows that of the 226 experiments 111 were with velocities of less than 6 metres, having given with 3:50 m. of velocity two cases of explosion and three cases of simple passage of the flame (the horizontal gauze being dirty), and with 4:50 m. (or thereabouts) of velocity nine cases of explosion, of which some were in inclined currents by the special manoeuvre of the valve. The 115 other experiments were with velocities of 6 m., and have caused thirteen cases of explosion and two cases of simple passage of the flame.

"The sub-Commission has made 79 experiments, with velocities of from 4 to 9 metres, which were marked six cases of explosion and two cases of simple passage of the flame. The following results have been arrived at from the experiments:—That complete extinction (of both wick and gas) takes place only in explosive mixtures moving with a velocity of less than 3 metres, the combustion of the gas manifests itself beneath the gauze, and continues there almost always after extinction of the wick. Thus, with 6 m. velocity there were (out of 115 experiments mentioned) only 21 cases of complete extinction, most of them being caused either by the unavoidable influx of too much gas, or by little explosions inside the lamps.

"From the experiments may be gathered that, so far as the condition of the lamp is concerned, dirtiness of the horizontal gauze appears to increase the liability of explosion, but this influence being only marked in one lamp—the Couchant de Mons—we can, perhaps, only see in this the result of a mechanical effect which a chimney brought excessively low down upon the wick holder produces upon the draught. The inclination of the lamps, swinging the apparatus before arrival of the gas, and the prolongation of combustion between the horizontal gauze for five minutes after the extinction of the wick, have not caused any explosion or simple passage of the flame. Certainly, experiments under these circumstances have not been numerous. The special manoeuvre of the valve has been fully recognised as causing explosions with a good deal of ease; indeed, in 65 experiments, with a velocity of from 4:50 to 6 m., there were eight cases of explosion and one case of simple passage of the flame. The experimenter was able during the later trials to produce as much as one explosion for every three experiments. Nevertheless, in spite of the few experiments reserved for testing the action of oblique currents and the effect of swinging the lamp before the arrival of the gas, it was found that these circumstances were dangerous.

"During the experiments made with inclined currents it was always observed that these only cause explosions with extreme frequency when inflected upwards, as in an experimental trial, in such a manner as to produce a sensible flickering of the flame of the wick. It may be added here that every circumstance of a nature to baffle the draught of the Mueseler chimney, in other words, every circumstance which is manifested by a strong agitation, and especially by the extinction of the flame, must be considered dangerous. (See marks upon lamps having chimneys with numerous outlets.) As far as the construction of the lamp is concerned the comparative experiments show that the relative security of the lamp rests, above all things, in the narrowness of the chimney at the top, and in the degree of resistance the horizontal gauze offers to the passage of the flame. It would seem, also, that a too great elevation of the base of the chimney above the wick holder, as well as the omission of the widening out of the chimney into a pavilion, diminishes in some degree the security of the lamp. But, as mentioned above, an excessive lowering of the chimney upon the wick holder may be hurtful.

"As to the effects of the Arnold shield upon the Mueseler lamp, it consists essentially in the delay of the moment of the extinction of the wick. This extinction requires a very large quantity of gas, and is almost always followed by the extinction of the gas under the horizontal gauze which could have continued to burn in lamps without the shield, in spite of the proportion of the gas. If these results are compared with those obtained by the Davy and Porion lamp it will be concluded that the Mueseler is of decided superiority, and that this superiority shows itself specially in rapid currents, although even then the security of this latter is not absolute."

"It will be seen by the foregoing that the commission instituted by the Belgian Government have confined their attention to the extent the gauze portion of lamps are calculated to withstand, and the various velocities of explosive gas they are liable to meet with in collieries, irrespective of the not less important point of a secure means of locking the light in such a manner as to prevent the user from exposing the same. It is my intention shortly to communicate a means whereby lamps can be made not only so as to permit a sufficient amount of oxygen to support combustion, but which will also resist any current of atmosphere and any velocity of the most explosive mixtures that it is possible to imagine can exist in coal mines. Reference to the tests made by Sir Humphry Davy, Robert Stephenson, and Dr. Clanny, unmistakeably point out that although they achieved an amount of success previously unknown they were quite alive to the fact that there was still something wanting to make their respective lamps perfectly safe under all conditions.

"You will see from what I have foreshadowed that I purpose taking the question of safety-lamps a stage further, and provide a means for the deficiency that exists. And as nothing made by human hands

can be considered perfect in this world, I hope it will not be considered presumptuous on my part to endeavour to extend the knowledge afforded by the illustrious men I have named, and try to add somewhat to the means of providing a system which may be considered as fulfilling the requirements of a safety-lamp.

Worsley, Oct. 21.

W. E. TEALE.

## TRIALS OF SAFETY-LAMPS AT WIGAN.

SIR.—"R. T. M." in the Journal of Oct. 11, although acknowledging that his former estimate of the registered velocities was incorrect, does not correct that estimate. The proportions of air and fire-damp were not exactly known, but they were such as to cause as nearly as possible the maximum explosive force, and therefore "R. T. M." need have no difficulty in arriving at almost exact figures. If I understand his argument, he asserts that a solid body weighs heavier in fire-damp than in air "when the barometrical pressure and other circumstances are alike," and therefore that the balance weight of the Dickinson anemometer is not heavy enough to cause the vane to register the velocity of fire-damp correctly.

Supposing this argument to be correct, it would become necessary when we required to find the actual velocity of a ventilating current that we should first ascertain the specific gravity of the mixture, consisting probably of air, fire-damp, carbonic acid, carbonic oxide, watery vapour, and other gases that may be passing at the time. Such a procedure is, to say the least, impracticable with our present apparatus. I have to express my regret that neither "An Engineer" nor "M. E." have yet replied to the request contained in my letter of Sept. 27.

JAMES ASHWORTH.

## OVERWINDING AT COLLIERIES.

SIR.—It has constantly been urged in the *Mining Journal* that automatic detaching hooks and safety catches for preventing loss of life in case of overwinding at collieries should be provided at every pit, regardless of the steadiness and ability of the engine-man who may be appointed. It can scarcely be doubted that, however careful and attentive a man may be, there are moments when he forgets himself, and when so important a question as the safety of workmen's lives is concerned all that is possible should be done to provide for these moments of distraction. An error in the starting of an engine is one which may produce the most lamentable results in an instant, and the horror which the mere discovery of the error produces in the mind of a careful and thoughtful man is ample to unnerve him for the few seconds during which all the mischief is done. We have just had another dreadful evidence of the necessity for self-acting apparatus to prevent overwinding.

This morning an awful accident took place as the men were being let down the Alexandra pit, at St. Helen's Colliery, belonging to Messrs. Pilkington Brothers. The occupants of one cage, consisting of nine men, instead of being lowered when the signal to descend was given, were drawn up into the head gear. Two of the colliers, a man and a youth, seeing the danger, leaped out of the cage and escaped with some rather severe bruises. In another instant the cage was smashed against the timbering of the head gear, and the other seven poor fellows fell to the bottom of the shaft, a distance of 320 yards. The engine-man (Joseph Naylor) is well known to be one of the most steady, safe, and trustworthy men in the district. I have known him as such for 21 years, and have been let down several shafts and wound up by him hundreds of times, and always considered myself safe in his hands.

W.M. HOPTON, Author of "Conversations on Mines," &c.

Sutton Heath Colliery, St. Helens, Oct. 22.

## ALLEGED DISCOVERY OF POTASH SALTS IN MECKLENBURG.

SIR.—With reference to Mr. Meyer's letter of Oct. 10, published in the Journal of last week, I beg to state that no potash salts whatever have as yet been discovered by the boring operations of this company referred to by Mr. Meyer.

P. SCRATCHLEY, Continental Diamond Rock-Boring Co., London, Oct. 21. Secretary.

## TREATMENT OF TIN ORES.

SIR.—I am sure you will agree that I ought to be very much obliged to Mr. Nance for the conspicuous way in which he has introduced my name. He seems never to have done with Mr. Green; it is the burden of his ditty, and appears to have raised his bristles to an uncontrollable and alarming extent. But the fact is, never was man more the dupe of his own imagination than the said Mr. Nance, whom I do not even know, and never heard of him before, and I am not aware that he has infringed or intends doing so. I did not see his letter of Sept. 27, and did not allude to him in any way; and yet under the delusion that I did so he proceeds to shower his thunderbolts on my devoted pate in a most heroic but unmerciful style, and the wind up is charming. After plunging about in much the same way as a bull in a china shop, and applying every insulting epithet he can command, he asks me to apologise; but, seeing how utterly he is mistaken, will he apologise? I am sure if he has one atom of self respect he will do so. I beg leave to say I do not lay claim to all the improvements in tin dressing. This his first statement is equally erroneous with his last. Mr. Nance cannot show that I have hinted at any such thing. I simply lay claim to what is contained in my specification—nothing more. This gentleman undertakes to explain what I know and what I do not know, and describes my way of dressing, which I hope some day he will understand more thoroughly, but if I measure him by his own standard it is hoping against hope.

I must confess I did not know that buddling was exploded, and seeing that all the fine ores and slimes up to this day are treated with buddles of some shape, as I understand the term buddle, I cannot look upon it as an exploded instrument. I did not insinuate that my system included the slime separator and classifier which was illustrated in the Supplement to the *Mining Journal* of Sept. 27. As I have stated, I had never seen it until after reading his letter published in the Journal of the 11th, but on now looking at the illustration for the first time it strikes me there is something original in it, and I should like to ask, is the apparatus really as described a separator and classifier combined? has Mr. Nance any of these at work, and what are the results? He accuses me of drawing very largely on my own imagination, but has shown how very fertile a source he has to fall back upon in case of need for his own use. His machine is a very good thing, indeed, if it will only do at all like what he expects; and, therefore, I should be glad to learn from Mr. Nance himself what he has actually accomplished with it. I may say that I imagined something resembling the thing a good many years ago, and patented it seven years since; there was, however, a very material difference, both in the construction and working. I have done little or nothing with it and, therefore, cannot say what it will do; some day I may try it, and then I can speak from results, which I prefer, notwithstanding all Mr. Nance has said to the contrary.

I cannot follow him through all the ideas he has introduced on the erroneous supposition that I was referring to his separator and classifier, and, indeed, it would be difficult to tell what he is driving at sometimes, especially when he gets to the imaginary chop down and chop down. This I must leave to abler hands, and will only now say that I never pretended anything I had done or can do as perfect or complete. Everything I see teaches me a very different lesson, and the moment I see anything in any detail better than what I have I shall be one of the first to adopt it, and give to those to whom it belongs both the credit and benefit.

As regards the buddle in its present various forms, so much from it being a cherished apparatus of mine I never thought it a perfect machine, far otherwise, and have no doubt it will be superseded, and whether by Mr. Nance's machine or something else remains to be seen. I would now say that the round buddle, as we know it in this country, has long ago been superseded in Germany, where it has been so far improved and perfected that no one who has seen them at work would endorse the sweeping condemnation of Mr. Nance, at any rate until other theories have been reduced to practice.

I again repeat my offer to test my system of dressing tin on any

reasonable terms that may be offered, and shall be glad to do so in competition with Mr. Nance, who, to say the least, does not take much trouble to learn the justice of his cause before rushing into the fray, and if ever there was an apology due it is from Mr. Nance; we shall see if he adopts his own rule. I considered most carefully every word I said, and had good ground to stand upon.

Aberystwith, Oct. 14.

GEORGE GREEN.

## THE LONDON COAL SUPPLY.

SIR.—With reference to my letter in your last week's issue, permit me to state that the great objection to the adoption of the usual system of traction engines is the damage caused to the roads by the concentration of a great weight on a small bearing surface and the projections or ribs on the tires to give them a firm grip or hold on the ground. Heavy damages have been awarded against the owners, which naturally impedes their use. With the traction engine proposed the weight is distributed over a large surface, and an endless railway attached to the driving wheels—if needed to the steering, also truck wheels—revolving with them, as per annexed diagram, which is no novelty, having travelled with a heavy load for 100 miles—from Thetford to Woolwich, over London Bridge—over level and undulating country, also gradients of 1 in 14, in the latter case at the rate of 2 to 2½ miles an hour, confirmed by a report from the Royal Carriage Department, Woolwich. The Times, in a lengthened article, states that the endless railway actually improves the roadway by the equal and broad compression of the rails. The Manchester Guardian states that the endless railway engine can draw a load of 50 tons with no apparent injury to the roads. The bite which the locomotive has on an ordinary iron rail is sufficient in most cases to propel the load, but the attachment of the wheel to the endless railway is such that it cannot slip. Want of a continuous large traffic has hitherto militated against the system being brought into general use, which the projected coal transport renders highly desirable, practical, and remunerative, being, in fact, the only transport that can offer sufficient remuneration. To attempt to develop this system would encroach too much on your valuable space, but I hold voluminous certificates and evidence before a Select Committee of the House of Commons, of the General Surveyors of the Metropolis and other Turnpike Roads, and others, also a large model, for perusal and inspection. All the goods traffic, express traffic alone excepted, will be displaced from the railways to the water carriage from London to Boston Deep, the Humber, Ouse, and Trent, and thence by the endless railway traction to Leeds and other centres of consumption, as named in my letter of last Saturday.

W.M. JOSEPH THOMPSON.

Little Tower-street, Oct. 21.

## THE MONOPOLY OF THE WORLD'S CONSUMPTION OF STEEL BY SWEDISH LAPLAND.

SIR.—It must be evident to the most casual observer that Swedish Lapland, by carrying out a system of transport and fusion supported by the very highest practical authorities—*vide* my letters in the *Journal*, permeating the entire mining world, of August 16, 23, and 30, Sept. 13 and 27, and Oct. 4, 11, and 18—is destined to perform a most important rôle in the exclusive supply of pure steel free from phosphorus and sulphur. The reason of this not having hitherto been accomplished is to be ascribed to want of economic transport and a proper system of fusion, which dual desiderata have been exhaustively treated in the *Journal*, and are now within reach. To arrive at the desired goal, the task devolves upon me of proving to the mortgagees and shareholders of the New Gellivare Company (Limited) their true position, as the first step towards reconstructing this intrinsically invaluable property at the present period, when iron is being superseded by steel, which cannot be produced free from phosphorus and sulphur from ore within reach in the United Kingdom by existing processes. The issue of the recent session of the Iron and Steel Institute at Liverpool is a demand for a pure highest-class steel, free of phosphorus and sulphur, in which the world at large, but especially this country, is so deeply interested. Medical authorities—allopathic and homeopathic—are not censured for their exertions to save the patient, and those who have embarked capital in this company, as well as the mortgagees, will please accept the assurance of my earnest desire to extricate them from their actual position by laying before them honestly and conscientiously the true state of affairs, and thus secure their sanction and co-operation in taking the necessary measures by valuation and otherwise to reconstruct the company, which is the only possible means of the mortgagees recovering their large deeply involved capital, with unpaid interest, and the shareholders of recouping their investment. The original prospectus of the Gellivare Company (Limited), 85, Cannon-street West, and of the New Gellivare Company (Limited), 3, Fenchurch-street, points to the deposit of rich iron ore as their primary object, confirmed by a special report of their engineer-in-chief.

In my letter of September 27 I showed that, in lieu of a loss of 98,212. 11s. 3d., as stated in the company's last balance-sheet, the more correct amount is 134,396. 4s. 5d., alleging my inability to form an approximate estimate of several entries, which at a subsequent period, in two missives of Oct. 15 and 16 to the directors, I computed would augment the loss to 243,649. 17s. 2d. What can be said of the entry in their balance-sheet thus—"230,508. 4s. 3d. standing to the debit of purchase of estates, representing the payment on account of same to date, with further amounts to be paid which can only be ascertained by further operations with the Gellivare Company (Limited), in liquidation in Sweden." This and the undefined amount just cited represent the ore deposit, which has remained worse than a dead loss, the last published account of the sale of iron showing a loss of upwards of 7l. a ton. As to the forests, for the survey of which 819. 0s. 11d. is stated to have been disbursed, the report of the surveyor now before me says—"I went over a large portion of the forests, and I am satisfied the trees are in good condition." No clue or estimate, however rough, is given. I have been accustomed to see forestal and statistical maps, and were I to undertake to remodel this undertaking I should feel it my duty to recommend a very different *modus operandi*, whereby something like an approximate estimate might be entertained, which is entirely wanting, and which was not difficult to do. What can they be estimated at when one of the directors of the company alleges, as palliative of the little work turned out by the dozen saw-mills, two of them steam, owned by the company, the augmented price demanded by the Government for felling the trees on the Crown lands. This, it must be seen, is an admission which must lead one to take a much aggravated view of the company's affairs. The allegation that the saw-mills are prevented working full time through scarcity of logs on account of the Government having raised the royalty I respectfully submit is no valid plea with such powerful saw-mills, the loss thus sustained being tenfold greater than any extra *redevance*. It is thus evident that the company have not enough wood available or accessible on their own property. The Altappen steam saw-mill, put down at 48,005. 9s. 4d., is stated by an important party, thoroughly acquainted with same, to be "a perfect sink of money." All the wood shipped has turned out a heavy loss; although entries on the credit side of the company's accounts thus—"profit on wood"—are transformed into a loss by an entry on the debit side of broker's commission, 20987. 10s. 4d. Farms within the Arctic Circle it can be readily conceived can only represent a very secondary amount, against which a loss of 662. 0s. 3d. stands. The steamers present also a loss in applying depreciation to the five steamers, which is only written off in the case of two, a most unusual course. As to a surface railway to Lapland, a sum of 1364. 12s. 3d. has been contributed by the company towards preliminary expenses. The Swedish Central Railway Company (Limited) with eminent City bankers and other City notabilities, is in liquidation by petition in Chancery on March 24 last. The Royal Swedish Railway Company, with the first man of note in Sweden as chairman, and men of first eminence in London as directors, have, in both cases, never paid any dividend, the interest on their obligations being unpaid, and both in districts with which Lapland, barren of population, is not for a moment to be compared, exhibiting an exuberance of railway misery. A gravitation railway as proposed, endowed with the facilities accorded by the New Gellivare Company (Limited) to the surface railway scheme, could be made for an infinitesimal amount as compared with the latter, and the cost of transport would not bear

comparison, and would not be prevented working by snow, the predominant element of Lapland, the country of snow. For the mere transport of ore it can be made for a purely nominal amount.

To summarise the aforesaid, the total loss is estimated at about £74,158/- 1s. 5d., or considerably more than double the fully-paid up capital; the loan on mortgages, £405,334/- 7s. 3d., with interest unpaid, carrying on the concern. My letter of Oct. 11 in the Timber Trades Journal shows nothing is to be apprehended from any false alarm as to export of wood from Siberia. My letter in your Journal of Sept. 27 shows 3*l.* per standard may be saved. With present prospects for the consumption of a high-class steel—by no means steely iron, *ride* my letter of Oct. 4—there will be no difficulty in re-constituting the company with an influx of fresh capital, and no time should be lost in having the property valued; anything being preferable to remaining in the present state, it having been authoritatively stated at the last meeting of shareholders that upon the whole estate being valued there was not enough to pay the mortgages, which, however deplorable, is *de facto* a *couloue de rose* statement. With untold wealth in the iron ore deposit, and confident of resuscitating the undertaking, I am prepared to devote my time and experience without charge to the company, being kept clear of outlay incidental to displacement, looking to the future successful exploitation for a managing director's remuneration on the net profit after the apportionment of a 10 per cent. dividend to the shareholders.

A comparatively trifling outlay will prevent any petition being presented in Chancery for the liquidation of the company. It is the bounden duty of the man who counselled the astounding amount of mortgage loans, more than double the amount of fully paid up capital, to be penetrated with the awful responsibility he has incurred, and to consign to oblivion any *planche de sauvegarde* in a surface railway *in nubibus* which was rejected by their predecessors—the Gellivare Company (Limited) in liquidation in Sweden—after having caused a special survey to be made by an engineer of eminence from England, who pronounced it impracticable. I do not anticipate any great difficulty by making the best use of the assets of the company in bringing the undertaking, which may be compared to a water-logged ship, safe into port, repairing, and equipping her afresh to prosecute her voyage with all barnacles scraped off, there being no other possibility of the mortgagees recovering their capital and interest and the shareholders their investments than by seconding my earnest endeavours, based on a well-grounded confidence of a successful result, and in perfect good faith. This country is especially interested in the issue.

*Little Tower-street, Oct. 21.* — WM. JOSEPH THOMPSON.

#### NOUVEAU MONDE MINING COMPANY.

SIR.—May I, through the Journal, enquire what is doing with regard to this company? Some time back announcements were made that the prospects of the mine were very encouraging, since which nothing has transpired as to its progress, and the shareholders are quite in the dark as to its future or present position. Perhaps some of your correspondents can enlighten—

A SHAREHOLDER.

*Oct. 20.*

#### FLAGSTAFF SILVER MINING COMPANY.

SIR.—My attention has been called to a letter in last week's Journal, signed "Observer," which contains misleading statements, one of which is to the effect that the litigation so long pending is about to close in favour of the company. I beg to inform you that all the litigation suits in Utah have some months since been disposed of—the last being the appeal in the Davis suit, which, although decided in favour of the company, had for one of its results practically the affirming of the title in a judgment creditor. The company has had no direct control over the mine for some time past, but active steps are now being taken for reacquiring the property by purchase or otherwise.—*London, Oct. 20.*

A. A. DE METZ,  
Secretary.

#### MORE ABOUT DIALLING.

SIR.—I entertained a hope that my letter on Dialling, with its accompanying diagram, which you kindly published in the Journal on July 12, would have opened the Cornish intellect a bit, so that the gentlemen to whom I therein referred might per chance be able to do their own work, and be no longer under the humiliating necessity of employing the land surveyor to do it for them. But, No! both your labour and mine seems to have been lost. The Cornish mining intellect appears to have no elasticity, no springing powers; as it was, so it still seems to be, for I notice that the land surveyor has been, or is to be, employed to define and keep the boundary line between South Frances and West Basset.

I. L.

#### CHEAP SHARES—YORKE PENINSULA PREFERRED.

SIR.—At the present time, when all high-class mining securities are being bought up at enhanced prices, "cheap shares" come once more to the front. Amongst those deserving attention I may mention the preferred shares of the Yorke Peninsula Mining Company (Limited). It is well known that this is a very promising undertaking, under able management, and only in wait for fair copper prices to develop into a first-class dividend mine. The gradually improving prospects—which will find, no doubt, ample expression at the coming meeting of shareholders on the 28th inst.—have recently led to a few purchases, and the preferred shares have advanced to about 17*s.* 6*d.* buyers. I consider this still a very moderate price for 15 per cent. preferred shares in a notoriously rich mine like the Yorke Peninsula; but it must not be forgotten that in the 17*s.* 6*d.* are included all arrears of dividends, which must be paid before the ordinary shareholders get a penny. At present those arrears amount to 7*s.* per 1*s.* share. Deducting this, the real price comes to only 10*s.* 6*d.* Furthermore, the fact should not be lost sight of that the preferred shares, after receiving their 15 per cent. per annum, are still entitled to share the then remaining profits with the ordinary shares; and last, though not least, that they rank first on the entire estate, and must be paid off in full before the ordinary shareholders get anything. After due consideration of all these facts it cannot, I think, be doubted that the preferred shares are now quoted below their intrinsic value.

*Oct. 23.*

INVESTOR.

#### PERRAN IRON ORE MINES.

SIR.—I was much pleased to see it stated in last week's Journal that Mr. Roebuck is about to rework the Perran Iron Ore Mines, and with thorough development there is every probability of complete success. I would also remind the numerous readers that there are other fields for mining enterprises where success is equally certain if worked energetically. There is a long range of ground in Somerset and North Devon from Eysyn Hill west to the Bristol Channel, a distance of over 20 miles, through which lodes of rich manganiferous ore runs, and there is no doubt but these will after a time be worked extensively and with great success. There are some important mining sets in this district that capitalists should secure; and when worked thoroughly and energetically will, I believe, prove of enormous value, as well as giving employment to thousands of persons throughout the district, as when it is properly opened up and facilities completed for quick transit the best quality manganiferous ore can be supplied at a cheaper rate than it can be got from Spain, and also continued for generations, without fear of disruption by the caprice of any parties. Capitalists will do well to look fully into this matter.—*Barnstaple, Oct. 21.*

M. E.

#### PENSTRUTHAL MINE, AND ITS PROSPECTS.

SIR.—The circular to the shareholders of the late company, with a plan of the various mines, has been sent out. Rarely has such an opportunity been presented of shareholders becoming again possessed of a property under brighter prospects at a nominal sum. The capital to be at once called up on North Penstruthal is the paltry amount of 3000*l.* There are no free shares, no great liquidators' charges and large reconstruction expenses. It seems that the 1100*l.*, to which will be added two months' costs of working the mine, with and damages, and a few incidental charges, will bring up the total cost to about 2000*l.*, leaving a clear 1000*l.* to continue the prosecution of the mine. It is evident that a new spirit animates the company, and that under new direction the points likely to lead to success are to be arrived at as quickly as possible. This is the only way to mine. We do not want to leave work for our children, but to find the wealth and leave them the money.

I shall take my interest in North Penstruthal and Old Penstruthal as well as in West Tresavean when launched, for never in my ex-

perience were such a trio of mines offered the shareholders or the public on such terms. Let the shareholders at the next meeting elect such directors as by their experience will develop the resources of the mine in the speediest and most economical manner. Time is money in mining, as in every business. Should any shares remain unapplied for, I trust those who apply for more than their proportion will have the preference.—*Oct. 23.*

MINER.

#### CORNISH MINING.

SIR.—I have long advocated this as a profitable source for investment; and from the fact that ten mines out of the number recommended as safe to embark in have risen in market value within the last six months the enormous sum of 430,000*l.*, I congratulate my numerous friends and correspondents on my predictions of Cornish mining being fully realised. This rise has, however, been confined to tin mines alone, while copper mines have been comparatively neglected. Notwithstanding the progressive advance in the price of fine copper it is, however, reasonable that public attention will now be directed to the copper mines of the county; and I venture to predict within the ensuing six months an equal rise in their market value. Rarely in the annals of mining have investors been placed at such a position to enrich themselves, due care only being exercised as to the present and prospective merits of the undertakings to be embarked in. Copper, as a rule, does not make in paying quantities as deep as tin, therefore I strongly urge the importance of investing in shallow mines as being freer from the risks usually attending very deep mines. Some few shallow ones are being opened throughout the county which cannot fail becoming sources of profit to the holders as soon as the requisite machinery now in course of erection is put to work for their deeper development, one of which the writer knows has laid open a course of copper ore at the adit 40 fms. long, wanting only the appliances to sink into the copper to make profitable returns, and enrich those who embark in the undertaking. C. BAWDEN.

*St. Day, Scovr, Cornwall, Oct. 22.*

#### MINING IN CARDIGANSHIRE.

SIR.—During the past week I have paid a visit to several lead mines in Aberystwith district, and to my utter astonishment I find the companies of some mines still plodding on in the old style with regard to production. I cannot understand how the directors and captains of these mines can time after time meet their shareholders with the same old tale, and pay no dividend. When will mining men and mining companies become sensible, and adopt the proper course to obtain a good return for their shareholders invested capital? The time has now arrived when the price of ore is advancing, and those companies that have adopted the right course for cheap production will speedily be rewarded; the course I allude to is the adoption of boring machinery. In the course of conversation with a well-known mining captain in Wales, he expressed himself thus: "I thoroughly satisfied that every mine of note should have boring machinery to make them pay," but, said he, "how are we to get the machinery when the directors are dead against us?" Whenever we put the matter before them we are met with the answer—"We have no money to spare for machinery," and are constantly asked to reduce the cost of working, or in other words, to grind the men down, which we do to the last farthing." "Now, Sir," he continued, "facts speak for themselves, and upon the best authority I am informed that a saving of 2*l.* per ton is effected where boring-machinery has been introduced, and if only 100 tons of ore is raised per month, that would represent a saving of 2400*l.* a year, a very neat sum for a small mine." What would not the larger mines save?

To go back to the mines in the Aberystwith district, I can only look on them with pity, for they will most certainly be left behind, while their more far-seeing and fortunate brethren reap the reward of the pluck they have shown in breaking through the old fangled notions of working in mines. In America machinery has been adopted for every purpose, and unless we follow in the same track we shall find ourselves grovelling in the dust. That we are being far outstripped in the cost of production no man can deny.

*Hounslow, Oct. 21.*

SHAREHOLDER.

#### CARDIGANSHIRE MINES—ROCK DRILLS, AND SLIME DRESSING.

SIR.—I think that most of your readers and investors in mines in this county will coincide with me in believing the time has arrived that, if we are to hold our own against home and foreign competition, the matter which forms the subject of this letter deserves very serious consideration. In order to do so it will be, first, necessary to take one mine as an example of what may be accomplished, provided these means are brought into use, and compare past, present, and future results. I will select the New Bronfloyd Mine, which a few months since was making regular returns of silver-lead ore of about 25 tons per month, when it was thought the price of lead had reached so low a point that all the bargains or lead-producing stopes should be abandoned. Accordingly this was acted on; the drivages of the different levels, agencies, and other explorations being carried forward entirely by drawing on the pockets of shareholders in order to do so. There is no reason to believe otherwise than that if work were resumed on the old principle returns of 25 tons monthly could again immediately be made, which at the present price of lead would about pay the general expenses of the mine; but supposing the company were to employ and make a contract with the proprietors of the Eclipse Drill, which I am convinced, without detracting from the merits of any other drill, will be found the most suitable for going through a great quantity of work throughout the mines in this county, and then see what the property would be capable of doing. This drill would open out, I am quite certain, fully four times the quantity of ground that can be broken by hand labour, and would enable the company to take away three times the quantity of ore monthly than if worked by the old method, or instead of 25 tons, a return of 75 tons per month could be realised. Now, I am quite sure there would be no difficulty in letting the bargains throughout the mine, so that everything should be fairly carried on (sinking, driving, &c.) on a liberal scale, and at present prices a clear profit, independent of every expense, could easily be made of 4*l.* per ton, or 300*l.* per month, or nearly 4000*l.* per annum. It is a fact that nearly all the money in hand, and calls made of 4*l.* 12*s.* out of 5*l.* per share, has been expended, that many of the largest shareholders are averse to a call, and many may never meet it, and lose all they have expended in the ore raising is not at once resorted to.

I have written this much to show that a call may not only be averted, but if proper and right measures are adopted in six months from this that the New Bronfloyd would be giving 300*l.* a month in profits, and I can do no more for the benefit of those who have appealed to me to know what is best to be done than to produce these facts through your widely-spread columns; arguing, on the same principle, if the Eclipse Drill should be put in motion at South Darren, instead of

40 tons of lead and about 20 tons of copper per month being returned, 120 tons of the former and 60 tons of the latter would be the result, which should leave a clear profit of at least 600*l.* per month, or 7200*l.* per annum. At East Darren three times the returns and profits could be made. At the Cambrian Mines a profit on present ore ground of 10,000*l.* per annum could be made. At Bwlch United, where it is intended to use the Eclipse Drill, and thus lead the way in this all important matter, ore ground would be opened out quickly, and the mine soon be brought into a state of returns and profits; but I need not describe what would result from every mine, suffice it to say that there is ample water power and ground suitable for these drills at West Esgair-Lle, Powell United, Frongoch, Grogwinion, Red Rock, and, in fact, in every large lead-producing mine in the county.

If the necessary capital is forthcoming for working Nant-y-Moch, which will undoubtedly be the case shortly, this system will be at once adopted, and the mine be fully tried in as many weeks as it would take months to accomplish; and I doubt not the Bryn Glas will see their way clear to adopt it also. Instead of the Cardiganshire mines being only just able to hold their own, I venture to assert that no group of mines in any county in this kingdom could compete successfully against us either in returns or profits. To the shareholders and not to the directors of the mines we must look to see this system

adopted. I feel it would be a waste of words to say more on this head. Either this system must be adopted or the mines must remain in many instances acres of ground destroyed in doing so, that no good for the mining community, the shareholders, the owners of the ground, or anybody else.

Since I have seen the drawing by Mr. Nance, in the Supplement of the *Mining Journal* of Sept. 27, it has so opened my eyes to the absurdity of the old method of dressing slime ore, the useless handling and rehandling, trunting, buddling, and all kinds of manoeuvring, besides in many instances acres of ground destroyed in doing so, that I am compelled to say it is really sickening to think of it, and more particularly when no one who is inclined to listen to sense or reason, or the explanation given by Mr. Nance, can for a moment doubt that the waste, besides the great cost of dressing the slimes, is simply enormous. I am not going to say that Mr. Nance's machine is really perfection, but of this I am certain, it is ten times nearer to perfection than any other that has ever yet been introduced into mining, is ten times as economical, and is worth its weight in gold, if only for no other purpose than averting the destruction of ground and the pollution of rivers. So satisfied am I of this that wherever I have an opportunity to dress slimes I should not think of trying anything else, and that it must soon be universally adopted is to me a settled fact. The mines of this county return one-third of their ore in slimes, and to them Mr. Nance has conferred a boon, which, if they adopt it, they will have reason to thank him for generations to come. Let us hope that this system with boring machinery may be immediately universally adopted, and Cardiganshire be placed where it ought to be—the greatest and most prosperous lead-producing county not only in Great Britain, but in Europe.

ABSAKOM FRANCIS.

*Aberystwith, Oct. 21.*

#### THE NANT-Y-MOCH LEAD MINING COMPANY.

SIR.—I promised to write a few lines last week about this mine, but I find my remarks will be very few respecting it. I may say, however, it is one of those lodes whose indications at surface and immense width, being from 40 to 60 ft. wide, with its junction with a very fine cross lode, very often leads to such immense discoveries as the Devon Great Consols, Van, and East Darren, the latter of which has produced 2,000,000*l.* worth of rich silver-lead ore, and is the same lode as the Nant-y-Moch main lode.

ABSAKOM FRANCIS.

*Aberystwith, Oct. 22.*

#### MINING IN THE LLANARMON DISTRICT.

SIR.—As promised in my letter of last week, I now enter upon one of the most conspicuous fields of enterprise just opened to capitalists in this district—an extent of upwards of 400 yards in length upon the main lodes, formerly so rich in the old Westminster, entirely new and undeveloped, now known as the Lady Ann Mine. These main lodes are—1. The Nant (or Westminster); 2. The old lode; 3. The Pantyguland; and 4. The south lode. Besides these, however, there is an entirely new lode in the adjoining Brynwyn Mine, in which the recent discovery of ore has been made running into this property; and also another new vein discovered within the property, in addition to the four already mentioned. It is certainly very remarkable that such should be the case (except for the reason I have before explained); to see such an extent of virgin ground undeveloped when the seal of its richness had already been set, even up to the boundary of the Westminster property. Such, however, is the undoubted fact, and not only this, but a considerable extent of rich properties have actually been worked at the other, or western, extremity of this mine on the same lodes, on one of which a deep adit has been driven for some considerable distance from the River Alyn, but not so far as to reach the ore ground, so that this property is in fact embraced by two rich properties, one on each side (to the east and to the west), proving, I should say, beyond any reasonable doubt, not only that the veins all exist, but that their development cannot but be attended with certain prosperity, whilst through the influence of the adit level (or natural causes) the workings at the west end are now drained over 100 yards deep (no water being found in the deepest portion), so that all this network of veins, with their junctions of large bold water-courses, known to be running through the property (and, indeed, found on the surface), can be worked for many years without the aid of steam-pumping machinery and the consequent heavy expenses attending. This valuable property has been taken in hand, I find, by some private gentlemen, and the first dawning glimpse of what is likely to follow their movements may now be seen as the result of a trial shaft in which a new master lode has been discovered, 2 ft. wide, with fine specimens of lead ore, and the vein compounds identical with those of the old Westminster (as explained by all the old miners with whom I have conversed on the subject). The shaft is sunk over 20 yards deep, and it is expected the new lode will form a junction with the Westminster in about 10 yards more sinking. At this point it is confidently expected the first important results may be looked for. If I am right in this conjecture a short time will prove it, and I fully believe capital laid out in this property will be proportionately as remunerative as that formerly laid out in the old Westminster mines

OBSERVER.

#### MINING IN LLANARMON DISTRICT.

SIR.—I have spent another week in North Wales making enquiries of all kinds, but was unable to prosecute them as I had wished from causes which I could not control—such as inclement weather; people not being at home, or easily comtable, whom I wanted to see. However, my visit was not entirely in vain. I learned that the Bog Issa Company (lead mining) is opening up a really good property, and that those who hold the shares have a very high estimate of their value in the future. I hope they will realise their expectations. I could not hear of any progress being made with the opening up of the Nant Adder day level, and I am sorry, too, to learn that the very promising Lead Era property is partially, if not altogether, at a standstill. I think the proprietors wanted to make too big a show with this property all at once, and instead of exerting all their strength at one good point exhausted themselves by having too many trials going on at once and the same time. This is a matter well worth their serious consideration for the future. I attach no blame to anyone, as it is a question of policy and means. Where the latter are limited I think it is very unwise to have too many uncertain trials going on at once. Bodidris seemed to be going on in its usual way—rather slowly, but I think the shareholders will be sure of a first-rate property here. I learnt from a principal shareholder in the Cefn-y-Maes Lead Mining Company who lives in the Llanarmon district that this property is progressing very nicely; but I rather think that Mr. Tredinnick is injuring its future prospects by quoting the shares at present as being worth from 12*s.* to 15*s.* each.

I made special enquiries as to the progress and future prospects of the Bryn-y-Mwyn property on the spot, and I find them to be first-rate. Lead is being procured from the new vein, and also from the Pant-y-Guland vein, in paying quantities, and the owners, of whom I understand Capt. Ede is one, may be congratulated on being possessed of a rich property. I heard while I was on the ground what might be called a secret respecting this property, which I cannot now divulge, of which your readers will most likely hear more shortly; but to those of them who desire to invest their money in profitable lead properties I would say keep a sharp lookout for a new company

character. The men are working well, are very steady and reliable miners, and are quite enthusiastic in their praises of this property. Besides the two veins named above, there are four other proved veins running the whole length of the sett. There are six lodes, known as Francis vein, Westminster, the new known proved profitable vein, Brynmwyn, the Pant-y-Guland vein, both of the latter running west out of Capt. Ede's property, the Nant Adder vein, and the south vein. Every one known valuable lodes. The owners seem determined to make this property one of the most widely known properties in the Principality. I could not obtain any definite information as to the progress being made at Pantdu or Belgravia.

I must conclude this, being pressed for time; in my next I will make some comments, the results of enquiries, on the influence of certain transactions or proceedings of mine agents and directors detrimental to the interests of companies morally and financially.

Oct. 22.

ENQUIRER.

#### WHEAL CREBOR.

SIR.—Too much stress appears to be attached to the circumstance that Wheal Crebor Mine shares "rose from 1s. 6d. to 10*l.* each," and much seems to be made of it, while the fact is lost sight of that at the time the shares from accidental circumstances were at 1s. 6d. they had cost the shareholders, myself among the number, 6*l.* each in calls; in other words, we had spent 36,000*l.* in developing the property. One-half the mine, or nearly so, was owned by the executors of a deceased shareholder, and alarmed at the risk and liability of such a large interest in a cost-book and calling mine, they made up their minds to get rid of the liability by relinquishing their shares. This meant winding-up the company, and to prevent it Messrs. Watson bought the whole lot at 1s. 6d. each, and offered them to their friends and clients at 2*s.*, and with the exception of 100 they retained for themselves, I am credibly informed every share was sold at 2*s.* The result has been a deal of jobbing in this lot of shares, and a profit of 10,000*l.* to 15,000*l.* to those who bought the shares of Messrs. Watson at 2*s.*; but among old holders very few indeed, I learn from the office, have changed hands. I was not one of the fortunate buyers at 2*s.*, and hence nothing to thank Messrs. Watson for on that score; but I do thank them, and consider all the shareholders are indebted to them for saving the mine from being suspended in the first instance, and for keeping its true position before your readers ever since, for that it is a valuable mine, and will hand-somely repay the shareholders in dividends are long, there is no real reason to doubt; and it may seem strange, but it is nevertheless true, that the great market "bull"—he who may be said to have moved heaven and earth to get the shares up to 10*l.* by what he called his "practical knowledge of mining," and by offering large sums of money for the call of shares at 10*l.* each—has also been the great centre of the "bearing" combination. It is a profitable game evidently to "bear" shares. It seems also likely to be a profitable game to use the substantial name of Crebor, and cast its shadow around.

E. H.

#### EAST ROMAN GRAVELS, LATE WEST TANKERVILLE.

SIR.—The question is asked in the Journal of last week—What has become of East Roman Gravels? also a letter from a "Shareholder," headed "A Lost Property." The capital of this lost mine is now 30,000 shares of 1*s.* each, divided into 9000 6 per cent. preference shares, and 21,000 ordinary. The preference shares are fully paid and without any further liability, and should be quoted as such in the Journal, making the distinction as done in the quoted capital of Ladywell. The preference shares rank equally for dividend with the ordinary after the latter have received 6 per cent. dividend.

East Roman Gravels has well-known rich lodes, especially the one from which Roman Gravels now obtains its great quantities of ore, and which lode passes into East Roman at some few fathoms deeper. This of itself is a great feature in the property, and must eventually make it most productive and valuable. The principal workings of the present company are in the Roman boundary or caunter lode. This lode is large, ranging from 3 ft. to 6 ft. wide, and capital ore was met with in the Roman Gravels Mine at the 65, 80, 95, and 110 fm. levels, and these runs of ore dip with the strata into East Roman, and the deeper levels now being opened in this mine will assuredly prove rich; at the same time these levels are being extended towards the shale, and it is the opinion of Capt. Waters that a rich deposit of lead ore will be met with either approaching or against the shale.—Oct. 22.

A SHAREHOLDER.

#### WEST PATELEY BRIDGE LEAD MINES.

SIR.—Until I read the report of the recent meeting of shareholders I had regarded my interest in this company rather as a speculation than as an investment. The statement of the Chairman, and the array of practical facts set forth by our overcautious yet zealous manager, induced me to visit the mine to form my own opinion. One need not be a practical miner to see that this property is of inestimable value, that it has favourable facilities for extracting the lead at the lowest cost, and that its capital is moderate, yet quite sufficient to ensure thorough exploration—about 5000*l.* being in hand. I am fain to acknowledge that our manager at the late meeting did not in any way "paint the lily," on the contrary, that he described in most sober words the condition of our mine, while, as far as I am able to judge, it is not easy to foretell its future, remembering that, as I was informed by the manager, we have a dozen or more veins more or less rich at and near surface, that by an exploration now in progress there will shortly be reached in another part of our mine several other veins untouched; indeed, unseen as yet within our boundaries, but enormously rich in bygone times in adjacent mines, and remembering above all that the whole of this mineral treasure-house can be easily emptied, as the tunnel drains the property—about 1 mile square—60 fathoms deep. Shareholders should visit the mine for themselves; if they do I shall be much surprised if, like myself, they do not afterwards find themselves holding a larger number of shares. If they do not, I, like Stephenson with the cow, pity them. Liverpool, Oct. 21.

A SHAREHOLDER.

#### MINING IN BREAGE.

SIR.—The rise in the price of tin is an unspeakable boon to Cornwall, because it has given a stimulus to mining industry in all its branches. Mines which would not sustain themselves under the recent depreciated price are likely to be resumed in several parishes—amongst the rest in Breage, where but very few men only were lately at work. Mr. W. H. Argall, the late accountant at Wheal Vor and other mines, deserves great praise for his endeavours to find employment for the unemployed miners in this district. I have been informed that he has a large number of men employed in quarrying on an elvan course—the stone from which is of a superior quality for building purposes. He formed a limited company, I believe, for these works. He is also forming a company for working West Vor Mine (Limited) for the extraction of tin, copper, and arsenical mineral. Capital 20,000*l.* in 10,000 shares, of 2*s.* each. The mine adjoins the celebrated old and productive mine of Great Wheal Vor, which yielded during the first working 272,000*l.* profit. West Vor contains the great lode which gave that profit, and other parallel lodes of great promise. It is one of the best tin districts in Cornwall. I hope that Mr. Argall will quickly be able to allot the shares and prosecute the work with spirit.

Poldore Mine, north of West Vor, is now idle, but as all the engines and machinery are on the mine, and the reserves of tin there considerable, I hope to see a restart of the works here, where the prospects are so good as to warrant it.

Great Work Mine is in the possession of Capt. W. Teague, of Tin-croft, who, I am told, intends to drain and work it if the price of tin stands at a good figure. No doubt it will pay in that case.

Penhale Wheal Vor takes place this week. I was informed that it was probable that someone would purchase the materials in one lot, and resume the works. The late company tried it a long time without success, but another company may soon hit a good bunch of tin. Its position is good for the production of that mineral.

Godolphin old mine I would not try again. It was worked out by the Messrs. Williams early in this century, who profited 90,000*l.* but the second workers lost 150,000*l.* Instead of laying out money in old exhausted mines lay it out in shallow improved mines, or in virgin ground where there are known lodes.

There is a wonderful amount of business transactions in mine shares at Redruth just now. The mine dealers are elated beyond any precedent, but some people doubt whether tin will remain high if it fetches much more, because the foreigners will resume their works and inundate the market. I do not wish to see black tin above 60*l.* per ton for that reason.—Truro, Oct. 22.

R. SYMONS.

#### Meetings of Public Companies.

##### WEST PRUSSIAN MINING COMPANY.

The fifth ordinary general meeting of shareholders was held at the offices of the company, Victoria-street, on Wednesday,

Mr. JAMES R. STEWART, jun., in the chair.

Mr. EMILE GARCKE (the secretary) read the notice convening the meeting.

The CHAIRMAN said that in considering the result of the year's working it was necessary to take into account the very trying period through which they had passed, and the almost unprecedented depression in all classes of trade, more particularly in the mining market; the market value of lead having gone to a price lower than had ever been known—certainly for the last quarter of a century. He was happy to say that the tide appeared to be turned, and although no doubt a portion of the revival was due to speculation, yet there was, no doubt, a solid foundation upon which a portion of it rested, and he hoped this company would reap the benefit of it. Taking these circumstances into account, the report, although at first sight not favourable, as compared with previous years, yet must be considered satisfactory. The net profits for the past twelve months amounted to 7313*l.* 17*s.* 10*d.* It was with great regret that the directors thought it desirable to withhold payment of any dividend to the "A" shareholders, but if they would look at the critical period through which they had passed they would be satisfied that the directors had done wisely. He was happy to say that as far as the profits had gone for the past three months, and also the estimates up to the present time, there was little doubt that the directors would be able to pay a dividend for the current quarter, ending in December. The manager's report seemed to give a good account of the working. Within the last day or two the directors had received letters which were of a favourable character. The lode on the 4*s.* at Heidelberg, had improved, and as a great portion of it ran through ground which was unknown to the old workers, it let a large reserve of ore in store. At Wuestseifen they had news yesterday morning that the lode which they had been some months driving for had been reached, and although the ore was not found in any large quantity, yet there was sufficient quantity to lead to the belief that it would pay. The other points to which he would refer were Ziethen and Wuestseifen; as mentioned in the report, the character of the lode at the latter was so poor that when lead had dropped to 13*l.* per ton it was found impossible to work at a profit. The directors carried on operations there for some time at a small loss per month, but eventually, by the advice of the manager, they decided to close the work for a time, and it was fortunate they did so seeing that the depression lasted so long. The directors hoped to reopen Wuestseifen when they got to the new level, but they must wait a little longer before they reopened the works at Ziethen. The rise in the price of lead had been so sudden that, as he said before, he thought they must ascribe some of it to speculators, therefore they must delay some little time before they entered upon a work which, including the repair of the Ziethen shaft, would cost about 1500*l.*; but the subject had the attention of the directors, and they would renew operations there as soon as they felt justified in doing so.

A SHAREHOLDER asked whether the shaft alone would cost 1500*l.*

The CHAIRMAN said not the shaft alone, but there were always expenses incidental to the closing of a mine, and it would cost about 1500*l.* for the shaft and those incidental expenses together. In conclusion he (the Chairman) moved the adoption of the report and accounts.

A SHAREHOLDER asked whether lead was the same price there as here?

The CHAIRMAN: Our contracts are made upon the basis of the quotations in the London market.

Col. CHARLES WYNNE said it must be borne in mind that the company were selling lead ore and not lead.

A SHAREHOLDER said he had come prepared to ask two or three questions, but they had been already answered by the secretary, therefore he need not put them. He would, however, ask whether the disturbances at Engelbert were of a serious character?—The CHAIRMAN said there was every reason to believe that the disturbances were only local. There had been disturbances of the lode before, but after they were passed the mine opened up better than ever.

Col. CHARLES WYNNE then seconded the adoption of the report and accounts, and mentioned that he was about to start for the mine that evening, for the purpose of inspecting it and seeing that all was going on properly.

The resolution was then put and carried.

The CHAIRMAN then moved the re-election of the retiring directors, Col. Chas. Wynne, and Mr. W. G. Logan, and said that both those gentlemen were most competent to act as directors.—Admiral STODDART seconded the resolution, which was put and carried.

Mr. LOGAN, in acknowledging his re-election, said he rejoiced that the directors were able to meet the shareholders with the substantial fact that they had not, during the whole of the recent bad times, had occasion to stop the preference dividend, and he believed there was every prospect of resuming dividends on the "A" shares shortly. He moved that Mr. E. Woodington be re-elected auditor.

A SHAREHOLDER seconded the resolution, which was put and carried.

A SHAREHOLDER proposed that the thanks of the meeting be presented to the directors and managers for their services during the past year. They had had bad times, but had come out of them well, and he was sure the shareholders could not do better than trust themselves under the guidance of the present board of directors.—Another SHAREHOLDER seconded the resolution, which was put and carried.

The CHAIRMAN, in acknowledging the compliment, said the directors gave their best attention to the affairs of the company, and would do so as long as the shareholders continued them in their present position. He thought the small attendance showed that the shareholders generally had confidence in the board of directors.—The meeting then broke up.

##### GRiffin SILVER-LEAD MINING COMPANY.

The first ordinary annual general meeting of shareholders was held at the offices of the company, Gresham-street, on Monday,

Mr. J. FORTEQUE-HARRISON, M.P., in the chair.

Mr. ROBERT MAKEPEACE (the secretary) read the notice calling the meeting; the reports of the directors and the agents, which have already been published, were taken as read.

The CHAIRMAN said the company was still almost in its infancy, but so far everything connected with it had progressed satisfactorily, and he believed the shareholders would be able to carry out all the promises made to the shareholders who had invested their money in the undertaking. The first parcel of lead had been tendered for that day, and the directors had accepted an offer of 10*l.* 3*s.* 6*d.* per ton, and considering it was not of the high quality which they would get hereafter, he thought the price must be considered satisfactory, and even if they did not get a larger amount they would shortly be able to declare a dividend. It would be noticed that the auditor, after certifying that the books and vouchers of the company were in perfect order, and that the balance-sheet was a full and fair one, went on to add "but it has not been drawn up in strict accordance with the provisions of clause 103 of the Articles of Association of the company." Now, he might explain that the clause referred to by the auditor did not apply to the company; the auditor thought that the accounts should be made out in accordance with Table A of the Joint-Stock Companies Act, but the company had a clause in their articles to the effect that the Article Table A did not apply to this company. But, as the auditor had stated, it was a "full and fair" balance-sheet, and that was the opinion of the directors. Appended to the report of the directors was the report of Capt. Kneebone, the agent of the mine, which had been circulated to the shareholders, who had, no doubt, made themselves acquainted with it, and that report bore out everything which had been said regarding the mine. In conclusion, he moved the reception and adoption of the report and accounts.

Mr. CHADWICK drew attention to the item of "board of directors for remuneration, auditor for fee, and solicitor for costs, 317*l.* 13*s.* 4*d.*" in the balance-sheet, and "directors' and auditor's fees, 235*l.* 5*s.*" in the income and expenditure account, and asked for some little explanation as to why there were two separate entries. The SECRETARY said the difference between the two was the amount of the solicitor's remuneration.

Mr. JOHN DAVIES, in further explanation, said there had been charged 50*l.* for each director, and 50*l.* extra for the Chairman, commencing on Oct. 12, 1878. For some time after the company was formed there were only four directors, but about three months since he was asked to join the board, which raised the number to five.—The CHAIRMAN said it was right to mention that they had not received any fees, but they had been charged in the accounts.

Mr. W. ELLISON seconded the resolution, which was put to the meeting and carried.

On the motion of Mr. CHADWICK, seconded by Mr. HADLAND, Mr. J. F. Harrison, M.P., was re-elected a director.

On the motion of Mr. MOORE, seconded by Mr. LARKINS, Mr. D. D. Lewis was re-elected a director.

The CHAIRMAN acknowledged his re-election, and said he hoped to have the pleasure of meeting the shareholders from year to year, and give a good account of his stewardship.

Mr. LEWIN also returned thanks for his re-election, and expressed the hope that at the next meeting the directors would be able to present the shareholders with still better results.

On the motion of Mr. SPRAGUE, seconded by Mr. CHADWICK, the auditor, Mr. John Ball, was re-appointed.—Mr. BALL acknowledged his reappointment, and said he hoped that when he next audited the accounts he should see a large balance to the credit of profit and loss.

Mr. JOHN DAVIES (a director) said he would make one or two remarks, and in the first place he would express his regret and the regret of the board that the agent at the mine, Capt. Kneebone, was not present. He was unable to account for Capt. Kneebone's non-attendance, as the secretary had forwarded him a cheque to enable him to come to London. Referring to the past, he said that some years ago, when he was first induced to visit the property, he was very much struck with its position and with the prospects it held out. He, therefore, secured the property, and since then the prospects had more than doubled through the developments which had taken place. Lodes had been discovered which had proved the mine to be second to none in Wales, and owing to the favourable position of the mine at the foot of the hill the water-power could be utilised to a very much

greater extent than in any other mine in the locality. They had driven about 50 fms. into the heart of the mountain, and he believed they were now pretty nearly under the spot where the directors intended sinking the main shaft. To a certain extent the report of the directors did not exactly accord with the report of the agent. The report of the directors stated that the machinery would be driven chiefly by water-power, whereas in the agent's report it would be observed that the agent spoke of having erected an engine. When the board first opened up the adit level and the small shaft they did not contemplate spending so much money near that spot, but when they began to open up they found the strata of so promising a character that they struck right and left, and they were able to find the lode. It would not be difficult to bring the water there, but it was considered better to leave the water where it was, and, therefore, it was intended to use the engine as an auxiliary to the water-power, and the cost of working the engine would be very small. He hoped that any money coming in would be used for developing the main shaft. He wanted the board to confine themselves to that spot, and he wanted the engine to be an auxiliary to the water-power. He hoped that in six months the board would declare a dividend from that part alone. Referring to the price of lead, he said that in January last common pig-lead was 13*l.*, in August it was raised to 14*l.* 5*s.*, and the last price was 17*l.* per ton. In January last white lead was 25*l.* per ton, and now 23*l.* One of the largest shareholders told him the other day that the price of common pig-lead would shortly be 18*l.* per ton. Therefore, he thought the prospects of the mine were good. He did not believe there was another spot in Carnarvonshire where so much lead could be worked as cheaply as from the Griffin Mine. There was the Great Cwmllian lode which had not been touched, and he hoped when worked it would be very profitable.

Mr. LEWIN said he fully endorsed all that had been said regarding the economy of working. As regarded the water, it could be depended upon even in the most severe drought.

Mr. DAVIES, in reply to a SHAREHOLDER, said that the sooner they placed the remainder of the 6000 shares the better, so as to complete the development of the property.—A vote of thanks to the Chairman and directors closed the proceedings.

##### DOLCOATH MINING COMPANY.

A three-monthly meeting of adventurers was held at the mine, on Monday, Mr. MARK GUY PEARSE in the chair.

The financial statement showed that the labour costs, merchants' bills, poor and way rates for the 12 weeks amounted to 12,282*l.* 12*s.* 6*d.* On the credit side there was—For 336 tons 1 cwt. of tin sold (less dues), 15,941*l.* 15*s.* 5*d.*; extra carriage of tin, 14*l.* 3*s.* 3*d.*, making a total of 15,955*l.* 18*s.* 8*d.*, and leaving a profit on the quarter's working of 3673*l.* 0*s.* 2*d.*, which added to a balance of 1522*l.* 11*s.* brought forward from last account, made the credit balance 5195*l.* out of which the committee recommended that a 10*s.* dividend per share (2148*l.*) should be paid, which would leave a balance of 3047*l.* 17*s.* 2*d.*

</

Capt. THOMAS responded to the toast, and compared the present returns and price of tin for many years, when tin was much dearer, showing that the mine had much improved, as it could make such profits as shown that day at the lower price. Besides that, they worked very much more cheaply now in opening up the ground more rapidly with boring machines, and drawing up the stuff in skips, so that a few fathoms in depth did not make much difference. He also suggested that they should employ more tributaries now that tin was at a better price, so that they might be able to return more stuff. But in order to do this they must increase their stamping power, and he would propose they should put up an additional fly-wheel and work two more axles. The engine was quite large enough to work two additional axles for 32 heads. This would only cost about 3000, or 4000, and would enable them to considerably increase their stamping power.

The health of the Chairman was proposed by the Rev. W. W. Butlin, and the toast of the neighbouring mines was proposed by Mr. Heard, and responded to by Capt. Charles Thomas, of Cook's Kitchen; and Mr. W. H. Rule, of West Seton. One or two other toasts followed, after which the meeting separated.

—*Western Daily Mercury.*

#### WHEAL PEEVOR.

The four-monthly meeting of adventurers was held at the mine on Tuesday.—Mr. T. PRYOR (the purser) in the chair. There was a very large attendance of adventurers. The account showed that the labour cost for the 16 weeks was 3146L; merchants' bills from June to September, 1546L; one 13-ton boiler and fittings, 97L; rates and taxes, 39L; doctor's pence, 48L; lords' dues, less income tax, 388L. On the other hand, 180 tons 13 cwt. of black tin had been sold, realising 7293L; extra carriage received, 10L; tin leavings sold, 641L; discounts received, 6L; showing a profit on the 16 weeks' working of 2667L. The balance left at the last meeting was 2199L, but out of this a dividend of 10s. per share—1500L—was paid, and there was now a balance to be dealt with of 3366L. The agents (Camps. W. T. White and Joseph Pryor) reported as follows:—

The preparatory work, which we were about at the time of our last meeting, for the sinking of the engine-shaft below the 80—cutting down footwall of old shaft between the 70 and 80, to bring it into proper line with the new (now perpendicular) shaft, and the sinking of a fork for standing lift, &c., we completed about three weeks since, and the men are now making satisfactory progress in sinking below the 80. We have set the middle lift as a certain bargain to the 90, at 27L per fathom. The lode in the 80 driving west is worth 40L per fathom; this level has passed through a good and profitable lode the whole drivage from shaft. The lode in the 70 driving west is worth 17L per fathom. The lode in the 60 driving west is worth 25L per fathom. The lode in the 48 driving west is worth 10L per fathom. About six weeks since we commenced to drive a cross-cut north at this level, 25 fms. west of cross-course. This we consider as a very important point, as it will prove the middle lode, old north lode, and others at a settled distance west of cross-course. The lode in the 36 driving west is worth 35L per fathom. The lode in the 36, driving east of main rise, is worth 10L per fathom. The lode in the 36, driving east of No. 1 cross-cut, is at present unproductive. The lode in the 36, driving west of No. 1 cross-cut, is worth 7L per fathom. The lode in the rise in back of the 36 west, 6 fms. behind the end, is worth 40L per fathom. The lode in the 26 driving west is worth 15L per fathom. The communication of the main rise with the deep adit level was effected about three weeks since. This has greatly facilitated our operations in this part of the mine. The men are now engaged in clearing out the stuff from the same, fixing ladder-road, &c., for a permanent footway, and, when completed, the continuation of the main rise above the deep adit will at once be resumed. We have also six stopes working on tutwork; the lode is worth in each 15L per fathom. We have also 16 pitches working on tribute, employing 54 men and boys, at tributes varying from 4s. to 9s. in 1L. The price of tin having advanced so satisfactorily of late we intend to get ready as soon as possible the additional 16 heads of stamps which we now have in hand, and set tributaries to work in the eastern part of the mine, where we have a large quantity of ground that can be profitably taken away. The mine continues to open up most satisfactorily, and our advantages for future workings are already improving. Our returns for the coming sixteen weeks will be about the same as last, and should the price of tin continue to improve our profit for the coming 16 weeks will be correspondingly increased.

The CHAIRMAN said he was sure Capt. White would be pleased to answer any questions which the adventurers might wish to put to him in reference to the statements made in the report. He might say with regard to the statement of accounts that all the tin credited was actually sold, and the tin bills were on the table; in fact, the tin was all sold on Saturday last. The cost of raising the tin had been about the same as during the last 12 or 18 months. During the whole of last year their tin was returned at an average of 27L 15s., giving them a profit of 6L 10s. per ton for the year. At the meeting in the early part of this year their tin cost 26L 11s. 9d., giving them a profit of 7L 0s. 9d. The tin sold of their last meeting (187 tons) was sold at 36L per ton, and was raised at 28s. 6s. per ton, giving them a profit of 9L 14s. per ton. At this account they had sold 199 tons at 40L 10s., and it was raised for 26L 10s. per ton, giving them a profit of 14L per ton. They would see that they had a balance to dispose of of 3366L, and he might say that in this account they had charged some new brass work for their winding engine, and they had also included a new boiler for their pumping engine, so that they had a spare boiler on the mine, and all these things were charged in the accounts. It was always well to keep a mine in good order, especially when they could afford to do it. Had this expenditure not taken place they would have shown a profit of over 3000L. This brass-work which they had put in will effect a considerable saving—perhaps 70% or 80% a year for something like 3000L charged in the present account. It was for the shareholders to say what the dividend would be, but his own idea was to give a dividend of 10s. per share. That would absorb 2400L and would increase their balance by 267L, and bring it up to nearly 1000L. That was a very substantial position to be in, as he said, it rested with them to say what they would do. They had really earned something like 17s. 6d. per share. If they had this balance in hand they would be able to pay cash and get the discounts, and work the mine more economically.

Mr. PERMEWAN was sure the report was a very satisfactory and encouraging one, and he saw that the returns of tin were greatly increasing; but he would like to ask Capt. White, whether the tin sold during the last 16 weeks was all returned in that period, or whether they were encroaching upon their reserves, or opening more ground than they were taking away. For himself, he was convinced in the matter seeing the comparatively small number of heads of stamps they had, but it would be satisfactory to have Capt. White's answer.

Capt. WHITE said he did not know that he could add very much to the report presented; but with respect to their reserves and the quantity of ground that they were taking away, although he did not know the question would be asked, he had prepared himself to answer it. The quantity of ground broken during the past 16 weeks was 260 fms., or 65 fms. per month, and they stood on this every 4 weeks about 30 fms., and consequently, they were adding every 4 weeks to their reserves more than one-half what they were taking away. They had altogether employed on tutwork 75 men and boys, and out of these 24 were employed in stonking. The remaining 51 men were engaged in developing the mine at the present moment. He thought this would compare favourably with any other mine in the country. They had 21 bargains on tutwork, and 11 out of these were on ends and cross-cuts, and the others were in the engine shafts, three rises and a winze. They had altogether in the mine 33 men on tutwork, including the men working in the shaft and the cross-cut, and the others were driving on the course of the lodes. He did not doubt but that this had been a matter of serious consideration with a great many, because of the large returns they were making. It is almost incredible to outsiders that with 32 heads of stamps they should be able to return 199 tons of tin in 16 weeks. He believed it was more than was done in other places in the country. He could truly tell them that they should be able to continue this for a considerable time to come. Only last week he went through a portion of their reserves, and he could testify to them that in one part of the mine only they had from 1600 to 2000 fms. of ground something similar to what they had been taking away, which would pay at 10L per ton. The workings in reference to the middle lode were very important. At the 48 they had commenced to drive a cross-cut west of the cross-course, which would intersect all the lodes to the north and the present one where they were now working, and as regards the 80, that was telling its own tale, the stuff being produced from there was equal to 5 per cent., and they had any amount of ground to the east of the engine-shaft, all intact from the 60 to the 80, from which not one particle had been taken away, and that would do very well to take away at from 40L to 50L per ton, and they intended to operate upon it during the next 16 weeks.

Mr. CHELLEW thought they had met that day under very favourable circumstances. After living through years of winters they had got nearly to the height of summers. If the price of tin only continued as at present they would be able to give a larger dividend next time, and seeing that they had extraordinary charges, and seeing that independent of this they had such a good balance in hand, he did not think there was any necessity of raising it at once to 1000L. He would rather see it creep up gradually even to 2000L or 3000L, and then he should not like to see it touched at any time to make good a dividend of a certain amount. They had earned 17s. 9d. per share, and he thought they might declare a dividend of 10s. per share, and leave the odd 9d. to go towards the balance, and then instead of 699L they would have a balance of 816L, and a similar addition next time would bring it up to the desired amount. He would, therefore, propose that a dividend of 10s. be declared, which would amount to 2550L, and leave an addition to the balance of 117L.

The CHAIRMAN said it must be understood that he did not oppose this proposition in any way. He had merely suggested 10s., as he thought it would give them a very substantial balance to carry forward. At the same time, he knew very well that when they had met in that room from time to time for years past they had divided their cost and made calls from 2s. 6d. up to 17s. 6d. per share, which was the highest. It was entirely with the meeting. The accounts were all charged up, and there had been these extra charges, which would not occur again.

Mr. THOMPSON said this matter ought to be well considered. He had come all the way from Yorkshire to attend the meeting, and his intention was to propose a dividend of 10s. per share. He had had a large stake in Wheal Peevor from the commencement, and he had tried to get the best information he could with respect to the property. He was satisfied that they had a good concern there, and it was their interest to work it quickly and vigorously. It would not be to their interest to tie the hands of the executive in any way. They should give them every facility and freedom in carrying out the work they had to do. They had accumulated a large quantity of ground, tin was likely to go up, and they should put themselves in a position to make large returns of tin, if they thought it desirable to do so. There were several things that they had to do which would take them some time to accomplish. They had great expectations at one time in the north lode, and also in the shaft, valued at 100L per fathom, and a large quantity of tin was taken out; but this had been interrupted by a slide, and they had never seen the lode fairly under this slide, and they had had much ground to develop in that direction, as well as both east and west of the 70 and 80, so that they had an immense quantity of ground to operate upon. They should, therefore, put themselves in a position to work more rapidly, in case they desired to do so. He believed a great deal of their profits for the last four months arose from Mr. Pryor having this balance in hand, and not being compelled to go into the market to get the money to pay the merchants' bills and wages for the

labourers. He had been able to take advantage of every rise that took place in tin, and he would, therefore, suggest that they should be content with a dividend of 10s. He should not like to see any difference about it. He looked at the mine as a permanent investment. He moved that a dividend of 10s. be declared.

Mr. WEST inclined to Mr. Thompson's opinion, and seconded the motion.

The CHAIRMAN thought they should be unanimous in the matter, and Mr. Chellew withdrew his motion, and that of Mr. Thompson was then carried unanimously.

The CHAIRMAN stated that some two years ago Mr. Michell and himself saw the necessity of extending the sett southwards, and since Capt. White had been there he had also seen it, and they had not ceased to do all they could to get 50 fms., which they asked for, south of the present boundary of Wheal Peevor. He was pleased to say that they had succeeded in getting that extension, and he was glad to be able to place the lease on the table. He received it only yesterday, and it was made out in the name of Mr. Michell and himself, as trustees, in the cost-book, as a formal matter, on behalf of the company. It was a very important and valuable piece of ground. He was delighted, as a large shareholder in the mine, in getting it.

Capt. WHITE said he could testify as to the importance of the piece of ground for their operations. The old lode was underlying south, and the bottom of their shaft was going on in that direction very fast, and they would now have 50 fms. further to go.

Mr. THOMPSON moved the acceptance of the lease, and that a vote of thanks be given to the purser and Mr. Michell for their attention to the interests of the company.

He had been shown over the ground by Mr. Michell and Mr. Pryor, and was told a statement that had been made in reference to a shaft there which brought to his recollection a similar statement which he had heard some years ago at North Down.

The one confirmed the other, and it was to their interest to have the ground.

—Mr. W. GUNDY seconded the motion, and it was carried unanimously.

Mr. F. W. MICHELL said one of the principal objects in getting this piece of ground was this. The Peevor's bottom lode, as they called it, was very near the old boundary, and underlying a little south, and the back of that lode for some distance below the adit was in Peevor sett, and as it was rapidly underlying in the adjoining ground they thought it right to acquire sufficient ground in that direction, so as to have that lode when they chose to work it at any reasonable depth. The immediate advantage was not what they looked at, but what the ultimate advantage might be. They believed that lode in itself was a property equal to any lode in the neighbourhood.

Mr. THOMPSON moved a vote of thanks to the executive, and said they were under great obligations to Mr. Pryor for the way in which he had dealt with the men, and to the agents for carrying out so good a work for the past four months, and securing such good results as had been shown that day.—Mr. CHELLEW seconded the motion, and introduced Mr. F. W. Michell's name, and said he had always thought a great deal of the success of that mine had arisen from the caution and foresight of that gentleman. He knew Mr. Pryor took great care in the selling of the tin, and that Capt. White did his best.

The motion being carried by acclamation, the CHAIRMAN returned thanks, and said they had all done their best, and worked harmoniously together, and he hoped that at the next meeting he would be able to lay a still more favourable statement before them than he had that day.

The adventurers afterwards dined together, and after dinner the CHAIRMAN (Mr. Pryor) proposed "Success to the Mine." They had seen that day what they had been able to do with tin at an average of only 40L per ton. Their profit had been equal to a dividend of 1L per share had they not charged the extra work which he had referred to at the meeting, and they could have divided something like 3000L. With the present price of tin they could easily imagine what their profit would be at the next meeting, and they would be able to return even a little more tin than they had during the last 16 weeks. Something like 200 tons of black tin had been sold within the last 16 weeks, and that had been through 32 heads of stamps only. Before the next meeting they hoped to have 16 heads more erected, and they would easily understand that that meant an increased quantity of tin to be returned, and a corresponding profit at the ensuing account. They had declared, as they knew, three dividends of 5s., one of 7s. 6d., one of 10s., and the present dividend of 10s., making 7275L altogether in the last two years. (Applause.) That was, he might say, something like 35 per cent. on the capital of the company. They had called up 7L 11s. per share, or, in round numbers, 22,650L, and the dividends they had declared, including the one of that day, were equal to 35 per cent. upon that amount. The previous dividends had been declared with tin at from 30L to 35L per ton, so that with tin at anything like an average price they could see what could be done at Wheal Peevor. With tin at 50L a ton they could have splendid profits. He coupled with the toast the health of their respected manager. (Applause.) Capt. White's heart and soul were in Wheal Peevor; he was there from morning till night, and anything he could do would be for the interest of the company. They were all pulling together, and they should be glad to give all the profits they could, and work the mine for the interest of the general body of the shareholders. (Applause.)

Capt. WHITE, in reply, said he was pleased to meet them under such favourable circumstances as he did that day. Mr. Pryor had referred to the dividends having commenced at 5s., and gone up to 10s., but what the next one would be they could not tell; that would be governed entirely by the price of tin. The permanency of the mine was well known now to the public, that being the sixth successive dividend that they had paid. In 1878 it was well known that tin reached its lowest price. In that year they gave dividends at every meeting, and they had sold tin for 30L 12s. 6d. per ton, while the last parcel sold realised 43L 15s. per ton. If this was to be the lowest price for the next 16 weeks, and it should rise as rapidly as it had during the last 16 weeks, then he really could not tell what the dividend would be. (Laughter.) There was one thing, that if everything went well they would return the same quantity of tin as they had done now. Mr. Pryor had mentioned the 16 heads of stamps which they were about to erect, and about raising so much more tin, but he did not believe in going too fast. If they gave 12L dividend next time that would be very well. However, they had got the additional 16 stamps, and they had got a lot of ground there that would pay to take away at the present price for tin. This ground had been lying in abeyance ever since the tin went down. As soon as they got to the 60 they locked up this tin, but the price now would warrant in opening up this ground. He could firmly state that the average of the ground to the old north lode and to the eastern shaft would average something like from 50 to 55 lbs. to the ton of stuff, and this would pay very well now. He was recently underground in a mine where the average was 46 lbs., and that paid. They must not look forward to an increase in the returns for the next quarter, because it would take some time to lay out the dressing-floors to receive the additional stuff. They could not do impossibilities. They should do the work as soon as they could. While laying out their present floor they had kept up their returns and rather increased upon them, and they would try to do that again. Whether the tin would go up or down he could not say, but he would vouch for the productiveness of the mine. The bottom of the 80 had been varying a little in the size of the lode, as every other lode did. In some parts of the level they did not know what the size of the lode was. They were driving 14 ft. wide, and the lode was beyond that, but how much he could not say. They were getting below the 80 fm. level, and when the men had finished their contract they would have a certain amount of money, which he believed was the best plan when they wanted to reach a certain object. In the 48 there was a very important point, and also the rise in the back of the 36. This rise was the highest point they had so far west in the shaft. It was up to the height of the 28 fm. level, and that was somewhere about 12 or 14 fms. behind that rise, and they could consequently see the result of the 28 fm. level 14 ft. beyond where it was at present. He verily believed that the course of tin that they had here would last to the surface. The productiveness and character of the lode they had in Wheal Peevor assured them that it would hold high, and the reserves he had mentioned were west of the cross-course, and did not include anything at all of the 70 or 80, but were entirely to the west of the cross-course. (Applause.)

Mr. WOOLCOCK proposed "The Health of the purser." That mine, like others, had passed through a severe depression the like of which had not been known for 50 or 100 years. During a portion of that time it had survived and paid dividends, but there were days in its history as dark as any others had known. Through all their purser and his friends stuck to the ship, stuck to the mine through evil and through good report. A Pryor was not to be daunted by a gloominess in the horizon, or a time of depression in the commercial world, and by perseverance the mine had been kept alive and brought on to a time of broad sunshine. They had always known Mr. Pryor to be a careful and judicious accountant, whose notice nothing could escape. He hoped he would be long spared to preside over that meeting, to give them handsome dividends. (Applause.)

The CHAIRMAN, in response, said it was true they had had uphill work, and for some 5 years they had never met there without making a call, sometimes as high as 17s. 6d., and sometimes as low as 2s. 6d. He knew that on several occasions they had shareholders that were inclined to forsake them, but after coming down and going over the property they had continued their interest, and they had now their reward. He had himself paid for one call much as 200L, but he had confidence in the mine, and Mr. Michell and he agreed that they should never allow a share to be relinquished. If any adventurer was inclined to relinquish his shares they would take them up, and from the beginning to the present there never had been a share relinquished in the mine, and that said a good deal for the proprietors of Wheal Peevor. Now that we had days of prosperity the question had been discussed of cutting down men's wages in time of depression. With regard to Wheal Peevor during the whole of the depression it never entered their minds to cut down men's wages. They believed in giving them good wages, and getting a little more work out of the men. Their men instead of changing at the dries did so underground. They always considered that unless they had fair wages they could not do a fair day's work. The earnings of their men had averaged from 3L 7s. 6d. to 3L 10s. per man. One of their men was a shareholder, sometimes a tributary, and sometimes on tutwork. They offered every inducement to the tributaries, and they had several men there that had done well, and this induced men to come in and open up ground that would not be otherwise opened. He had seen as many as 50 men at the account-house on Saturday from Blackwater, Chacewater, and other places asking for employment, so that if tin went to 60L or 70L per ton they would find no difficulty in getting men. That was a shallow mine, and men would come there before they would go to deep mines. He proposed "The Health of Mr. Thompson," of Yorkshire, who was a large shareholder, and had always stuck to his shares.

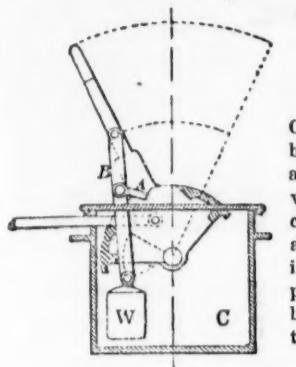
Mr. THOMPSON said he took much interest in the mine, and watched it very closely, as he had taken his share as an investment. He thought the executive should be in a position to work the mine as rapidly as they might think right. He was fully persuaded that better days were coming. Some time ago he had been told that a day would come when he would get 30L each for his shares. That was difficult to believe, even now, but there was a much better prospect now than there was then.

"The Health of Mr. William Gundry," a Cornishman, and a member of the London Stock Exchange, and that of his brother—"Mr. Thomas Gundry"—was proposed by the CHAIRMAN, and cordially drunk, and the compliment was briefly acknowledged.

"The Health of Mr. Rule and Mr. Barnett" was drunk, and the latter, as representing Messrs. Bolitho and Sons, tin smelters, said he did not think the prospect of the future would be a gloomy one. Looking at the tin statistics, and the present rate of production and consumption, he did not think they were going to see the prices reduced for some little time. To no one more than the tin smelters could good prices agreeable. During the depression, knowing the straits to which

adventurers were put, the smelters bore a portion of their burdens, and now he hoped they were reaping a portion of the profits. [A VOICE: No doubt about that.] If they could return, as they did then, tin at from 25L to 27L per ton, he felt assured that they need not hesitate in thinking that they would have a larger dividend at the next meeting.—The health of "The Visitors" was responded to by Mr. FIDLER and Mr. W. H. TRESSIDER.—Other toasts followed.

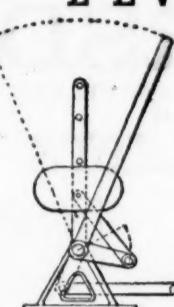
## SWITCHES AND CROSSINGS, FOR RAILWAYS AND TRAMWAYS, WITH PATENT LEVER BOXES.



Hartley's Patent Lever Box,  
REVERSIBLE UNDERGROUND,

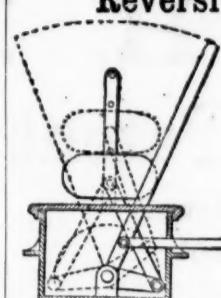
Can be set to work either way; by turning over the catch at A and reversing the lever, the weight W swings over to C, the catch preventing its return until again turned over. The reversing is effected with very little power, as the weight is raised but a few inches in the operation.

### HARTLEY'S PATENT LEVER B O X.



Specially designed for Colliery Workings, or where economy of space is an object. Is reversible, and can be locked either way, or dead-locked, so as not to work at all.

### Hartley's Patent Locking and Reversible Lever Boxes,



Will set over both ways, can be locked so as to work on one side only, or the switches can be locked on either side, so as not to work at all. Takes up less room than any other, as the weight does not turn over; works equally well if full of water; can be supplied at the price of an ordinary lever box.

Tank Locomotives, Siding Stops, Wheels, Rails, Chairs, Spikes. Bolts,

AND EVERY DESCRIPTION OF PERMANENT WAY FITTINGS.

Iron and Steel Pit Cages, Wrought-iron Roofs, Headgears, Girders, Turntables, Patent Coal Tip, Boilers, Engines, Water Cranes.

**HARTLEY and ARNOUX BROTHERS, Stoke-upon-Trent.**

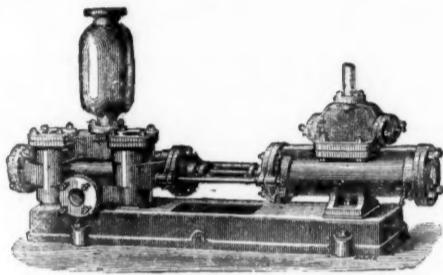
## MAY AND MOUNTAIN, BIRMINGHAM,

Engineers, Millwrights, Ironfounders, Coppersmiths, and Boiler Makers.

SOLE MANUFACTURERS OF

IMPROVED VERTICAL COLEBROOK'S PATENT STEAM PUMP. TORKINGTON AND HEY'S

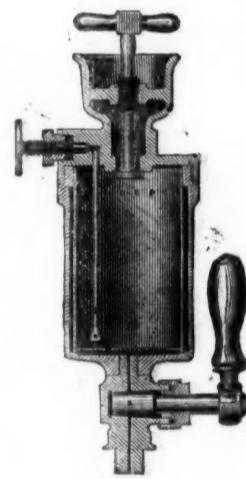
DOUBLE-ACTING



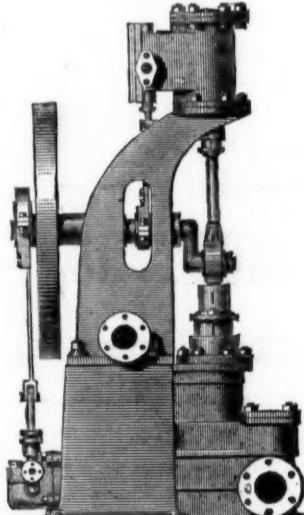
### PRICES OF A FEW LEADING SIZES.

Steam cylinder.	Water cylinder.	Stroke.	Gallons per hour.	Price.
3	1 1/2	12	720	£16
4	2	18	1,260	19
4	4	18	5,040	25
6	4	18	4,280	33
6	6	18	9,660	41
8	6	18	7,920	50
10	8	18	12,080	80

PATENT.

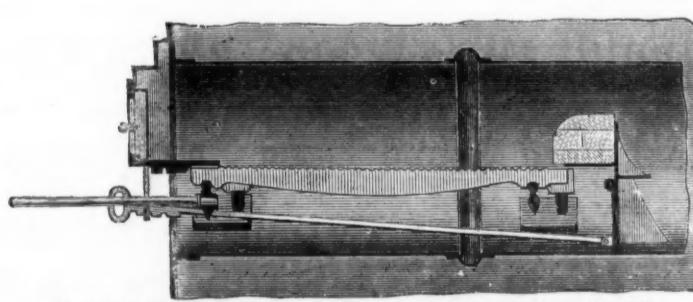


PRICES ON APPLICATION.



### PATENT LUBRICATORS,

Entirely Self-acting. Flow of Grease regulated  
by the Steam. Perfect Lubrication.  
Greatest possible Economy.



IMPROVED SMOKE PREVENTING FIRE BARS.

### TO SUIT ANY

FLUE

OR

FURNACE.

### PRICES

ON

APPLICATION.

### PRICES OF LUBRICATORS.

No.	Horse-power.	Price.
1	Agricultural }	7s. 6d.
2	Engines... }	10 0
3	5 to 7	20 0
4	7	25 0
5	10	30 0
6	20	37 6
7	30	47 6
8	50	60 0
9	70	85 0
10	100	110 0

## PATENT DUPLEX LAMPS,

FOR COLLIERIES, IRONWORKS, &c.

SUITABLE FOR PIT BANKS, ENGINE HOUSES, &c., &c.

Each Lamp gives a light equal to 26 candles.  
No Breakage of Chimneys from Heat.  
Cottons last three months.  
Will burn any Mineral Oil.



**S. HOOPER,**  
LAMP MAKER & OIL MERCHANT,  
LOWER TEMPLE STREET,  
BIRMINGHAM.

N.B.—Lamps made suitable for every purpose.

The BEST SIGNAL BELL MADE for MINING PURPOSES.  
ILLUSTRATIONS ON APPLICATION.

## SAMUEL DENISON & SON'S WEIGHING MACHINES

ARE THE BEST IN THE MARKET FOR

ACCURACY, DURABILITY, AND DESIGN.

SPECIALLY ADAPTED FOR COLLIERIES, MINES, IRONWORKS, BRICKWORKS, AND RAILWAYS.

**SPECIALITE !!—Pit-bank Weighing Machines, with our latest improved Double Steelyard Indicator. NO LOOSE WEIGHTS. Simplest and most perfect ever brought out.**

REPRESENTED IN THE MINING DISTRICTS BY  
**YEADON & CO.**, Albion-place, Leeds. | Old Grammar School Foundry, Leeds

WORKS

At the PARIS EXHIBITION the Jurors have Awarded

THE GOLD MEDAL, THE SILVER MEDAL, AND HONOURABLE MENTION  
FOR MY LATEST PATENTED STONE BREAKERS AND ORE CRUSHERS.

Stones broken equal, and Ores better, than by hand, at one-tenth the cost.

## H. R. MARSDEN,

ORIGINAL PATENTEE AND SOLE MAKER OF BLAKE'S

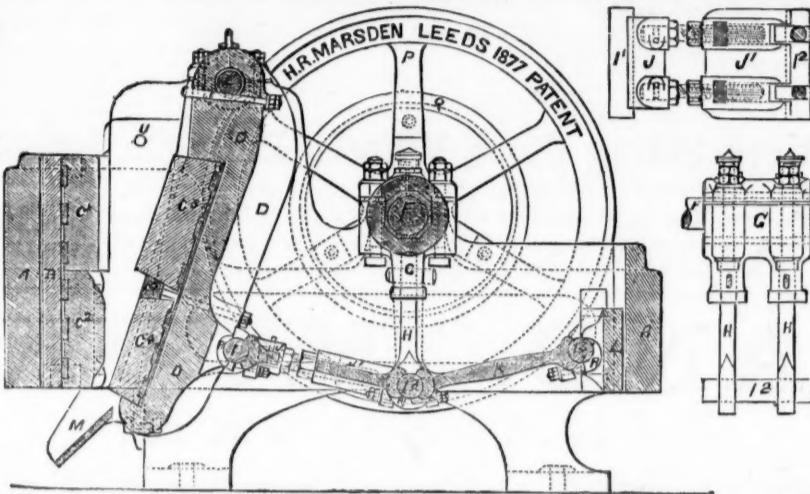
## Improved Patent Stone Breakers &amp; Ore Crushers.

New Patent Reversible Jaws,  
in Sections, with Patent  
Faced Backs.NEW PATENT ADJUSTABLE  
TOGGLES.  
OVER 2500 IN USE.New Patent Draw-back  
Motion.

NEW PATENT STEEL TOGGLE BEARINGS.

70

PRIZE MEDALS.



## READ THIS—

Wharhole Lime Works, Maryport, Whitehaven, November 7, 1873.

H. R. MARSDEN, Esq., Soho Foundry, Meadow lane, Leeds.  
DEAR SIR.—The machine I have in use is one of the large size, 24 in. by 12 in. The quantity we are breaking daily with this one machine is 250 tons, the jaw being set to break to a size of 2½ in. We have, however, frequently broken over 300 tons per day of ten hours, and on several occasions over 350 tons during the same period. The stone we break is in the blue mountain limestone, and is used as a flux in the various ironworks in this district. We have now had this machine in daily use for over two years without repairs of any kind, and have never had occasion to complain of any inconvenience in using the machine. I hope the ones you are now making for me may do its work equally well. The cost—INCLUDING ENGINE, POWER, COALS, ENGINEER, FEEDING, and all EXPENSES OF EVERY KIND—is just 3d. per ton. Should any of your friends feel desirous of seeing one of your machines at work, I shall have much pleasure in showing the one alluded to.

I am, dear Sir, yours very truly,

WILLIAM MILLER.

## AND THIS—

Wharhole Lime Works, Aspatria, Cumberland, July 11th, 1873.

H. R. MARSDEN, Esq., Soho Foundry, Leeds.  
DEAR SIR.—We are in receipt of your letter of 4th inst. I may just state that the stone breaker above named has been under my personal superintendence since its erection, and I have no hesitation in saying that it is as good now as it was five years ago.

I am, dear Sir, yours faithfully,

FRANCIS GOULD.

GREATLY REDUCED PRICES ON APPLICATION.

ALL BEARINGS are renewable, and made of H.R.M.'s Patent Compound ANTIFRICTION METAL.

CATALOGUES, TESTIMONIALS, &amp;c.

H. R. MARSDEN, SOHO FOUNDRY, LEEDS, ENGLAND.

## THE "CHAMPION" ROCK BORER

MINE AND QUARRY STANDS, STEEL DRILLS, SPECIALLY PREPARED INDIARUBBER HOSE, TESTED IRON PIPES, &amp;c.

## Air-Compressing Machinery,

Simple, strong, and giving most excellent results, and ELECTRIC BLASTING APPARATUS.

Full particulars of rapid and economical work effected by this machinery, on application.

R. H. HARRIS, late

Mechanical and Consulting Engineers,  
63, QUEEN VICTORIA STREET, LONDON, E.C.

ULLATHORNE AND CO.,

PARIS EXHIBITION,  
HONOURABLE MENTION

Awarded to

SALMON, BARNES, &amp; CO.

FOR THE PATENT

## ROANHEAD ROCK DRILL,

AND THE HIGHEST AWARD FOR

## IRON AND WOOD REVOLVING SHUTTERS,

Worked by their PATENT BALANCE-WEIGHT MOTION.

Canal Head Foundry and Engineering Works, Ulverston,  
LANCASHIRE.

GOLD MEDAL AWARDED, PARIS EXHIBITION 1878.

## THOMAS TURTON AND SONS,

MANUFACTURERS OF

MINING STEEL of every description.

CAST STEEL FOR TOOLS. CHISEL, SHEAR, BLISTER, & SPRING STEEL  
MINING TOOLS & FILES of superior quality.

EDGE TOOLS, HAMMERS, PICKS, and all kinds of TOOLS for RAILWAYS, ENGINEERS, CONTRACTORS, and PLATELAYERS.

LOCOMOTIVE ENGINE, RAILWAY CARRIAGE and WAGON SPRINGS and BUFFERS.

## SHEAF WORKS &amp; SPRING WORKS, SHEFFIELD.

LONDON OFFICES.—90 CANNON STREET, E.C. PARIS DEPOT—12, RUE DES ARCHIVES.

## J. WOOD ASTON AND CO., STOURBRIDGE

(WORKS AND OFFICES ADJOINING CRADLEY STATION).

Manufacturers of

## CRANE, INCLINE, AND PIT CHAINS,

Also CHAIN CABLES, ANCHORS, and RIGGING CHAINS, IRON and STEEL SHOVELS, SPADES, FORKS, ANVILS, VICES, SCYTHES, HAY and CHAFF KNIVES, PICKS, HAMMERS, NAILS,

RAILWAY and MINING TOOLS, FRYING PANS, BOWLS, LADLES, &amp;c., &amp;c.

Crab Winches, Pulley and Snatch Blocks, Screw and Lifting Jacks, Ship Knees, Forgings, and Use Iron of all descriptions.

STOURBRIDGE FIRE BRICKS AND CLAY.

STEAM PUMPS for COLLIERY PURPOSES, specially adapted for Forcing Water any height; also for Sinking; and for Feeding Boilers.

JOHN CAMERON has made over SIX THOUSAND.

WORKS: OLDFIELD ROAD, SALFORD, MANCHESTER.

## ASBESTOS.

ASBESTOS ENGINE PACKING,  
ASBESTOS MILLBOARD JOINTING,  
ASBESTOS BOILER COVERING,  
ASBESTOS CEMENT,  
ARE UNRIVALLED.

Sole Patentees and Manufacturers:  
THE PATENT ASBESTOS MANUFACTURE CO. (LIMITED),  
31, ST. VINCENT PLACE, GLASGOW,  
AND 10, MARSDEN STREET, MANCHESTER.

From whom Price Lists and all information can be had.

THE GREAT ADVERTISING MEDIUM FOR WALES.  
THE SOUTH WALES EVENING TELEGRAM  
(DAILY), and  
SOUTH WALES GAZETTE  
(WEEKLY), established 1857.

The largest and most widely circulated papers in Monmouthshire and South Wales. Chief Offices, NEWPORT, Mon.; and at CARDIFF.

The "Evening Telegram" is published Daily, the First Edition at 3 P.M.; the Second Edition at 5 P.M. On Friday, the "Telegram" is combined with the "South Wales Weekly Gazette," and Advertisements ordered for not less than Six Consecutive Insertions will be inserted at an Uniform Charge in both papers. P.O.O. and Cheques payable to HENRY RUSSELL EVANS, 14, Commercial-street, Newport, Monmouthshire.

THE NEWCASTLE DAILY CHRONICLE  
(ESTABLISHED 1764).  
THE DAILY CHRONICLE AND NORTHERN COUNTIES ADVERTISER,  
Office, Westgate-road, Newcastle-upon-Tyne; 50, Howard-street, North Shields; 195, High-street, Sunderland.

Printed by RICHARD MIDDLETON, and published by HENRY ENGLISH (the proprietors) at their offices, 26, FLEET STREET, where all communications are requested to be addressed.—October 25, 1879.